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FOREWORD

The Regulatory Standards and Compliance (AXR) organization is an integral and dynamic part of the Federal Aviation Administration and is now being challenged more than ever before with demands from the Congress and the public to increase safety and security measures. In order to meet this challenge, careful planning and development of strategies for accomplishing our mission are essential. The purpose of this document is do just that by outlining the goals of the organization for a five-year period and the activities and initiatives necessary to achieve these goals. In addition, the plan contains a description of each office within AXR and its functions along with projected resources for the period 1990 - 1994.

Anthony J. Broderick
Acting Executive Director for
Regulatory Standards and Compliance, AXR-1

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CHAPTER I

EXECUTIVE DIRECTOR FOR REGULATORY STANDARDS AND COMPLIANCE

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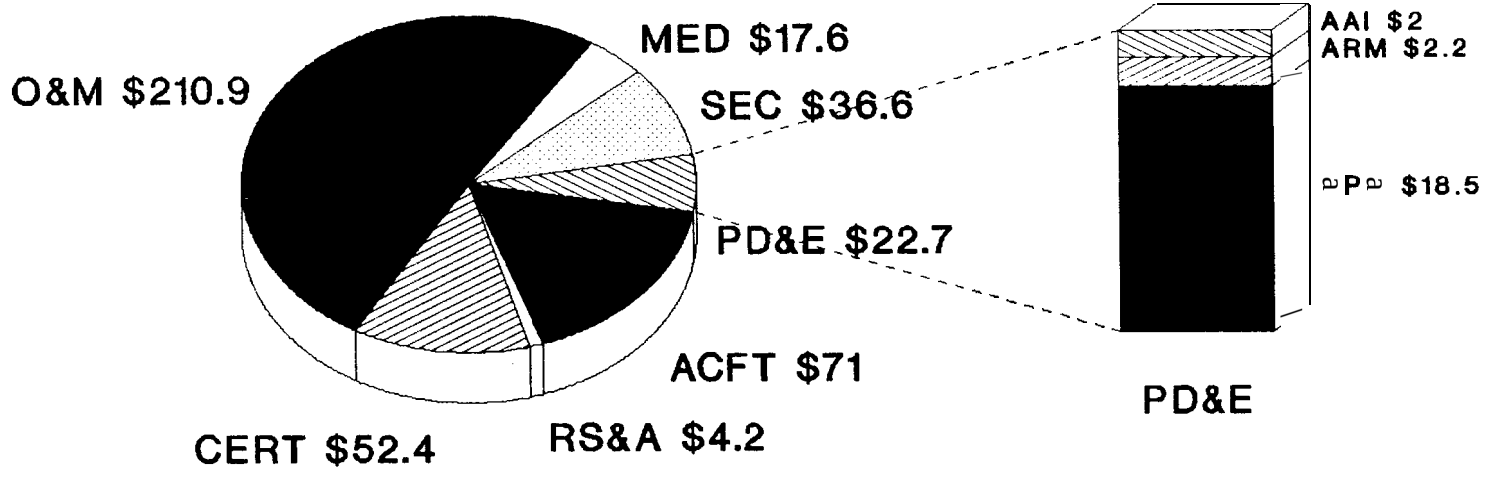
ORGANIZATIONAL DESCRIPTION

The Executive Director for Regulatory Standards and Compliance is responsible for assisting the Administrator in establishing the policies and broad technological, operational, and managerial concepts for the Regulatory Standards and Compliance organization and providing leadership, direction, and guidance relating to flight standards, aircraft certification, aircraft programs, aviation medicine, aviation security, aircraft accident investigations, airmen and aircraft registry, and rulemaking. The Executive Director provides executive direction over the Associate Administrator for Regulation and Certification, the Associate Administrator for Aviation Standards, and the Office of Program and Resource Management.

The organizational structure of this complex is shown on page I-2, and total AXR resources are depicted on the following page.

AXR Resources - FY 1990
(Dollars in Millions)



Operations Appropriation

AXR Resources - FY 1990
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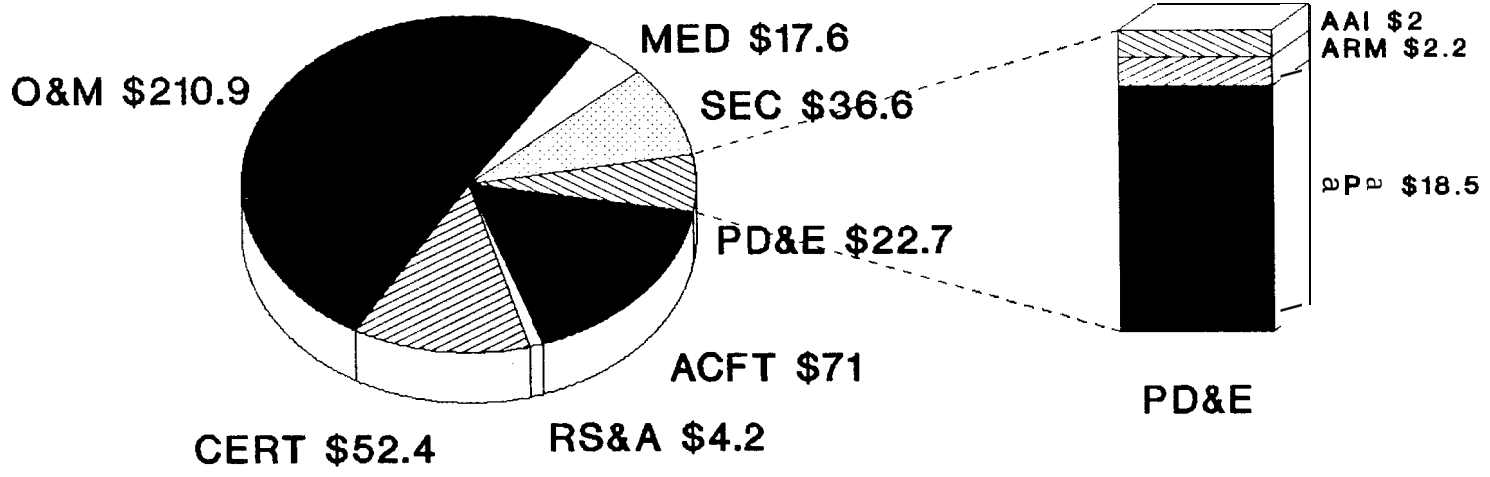
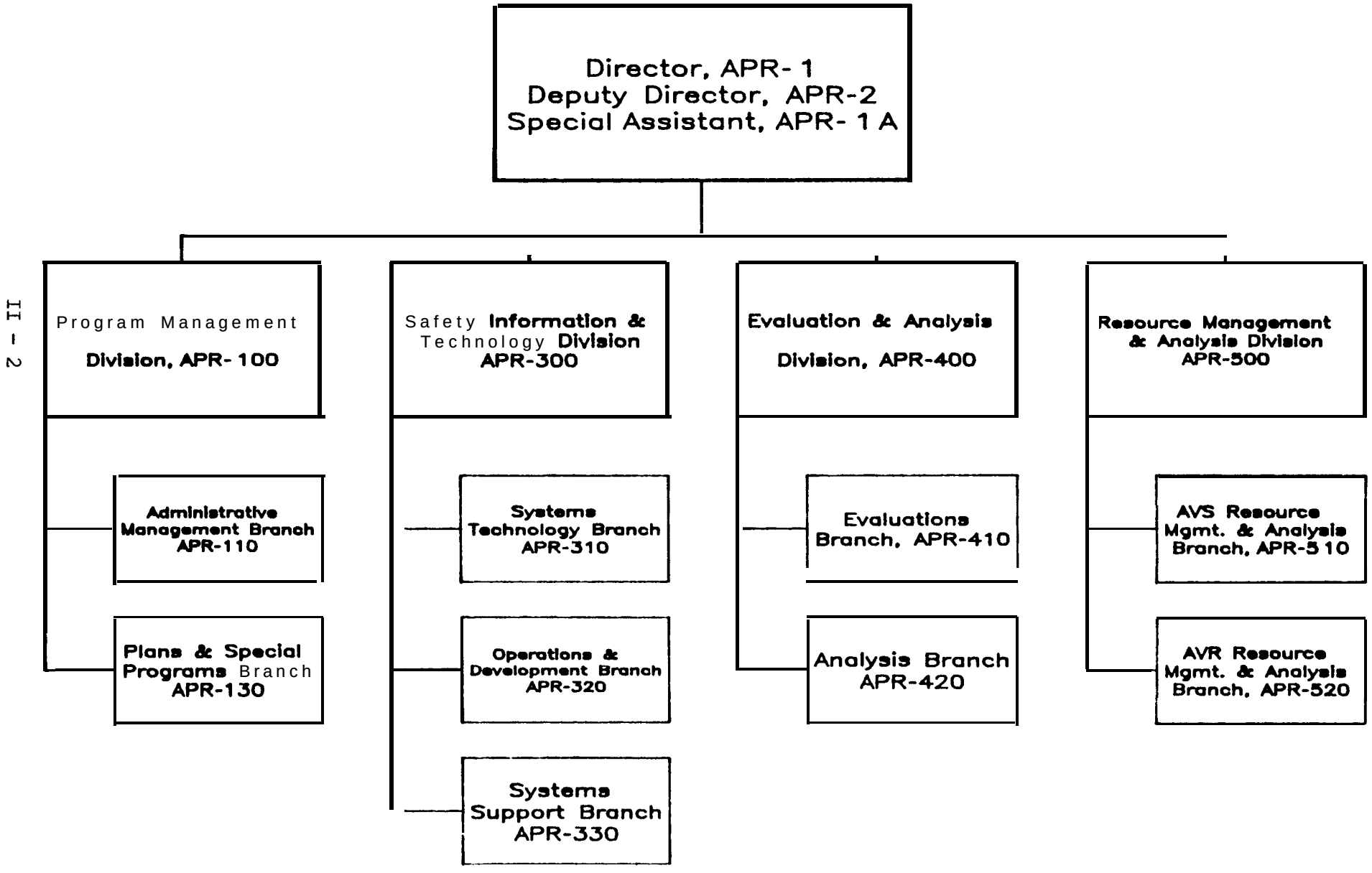


Operations Appropriation

OFFICE OF PROGRAM AND RESOURCE MANAGEMENT (APR)
Organization Chart



OFFICE OF PROGRAM AND RESOURCE MANAGEMENT

The Office of Program and Resource Management (APR) is a principal staff element of the FAA that provides policy guidance, program planning, leadership, and direction to the development of the national aviation safety data system, planning and evaluation, and fiscal and human resource management for the entire AXR complex. To better serve all of the organizations under the Executive Director for Regulatory Standards and Compliance, AXR, the major programs of the APR organization have been more clearly defined by the establishment of four divisions under the office director. Through these divisions, APR accomplishes its mission in the AXR complex as well as serving as liaison with other FAA elements, other government agencies and the aviation community. Within the scope of this mission, APR specifically:

- Provides national program policy for AXR data and office automation activities
- Provides leadership, direction, and guidance on human resource/ paperwork management programs to all the offices within the AXR complex
- Develops, manages, and coordinates national AXR training requirements and plans within the framework of agency training policies
- Conducts studies on AXR organizational development and design
- Manages the Aviation Inspector Credentials program
- Develops and coordinates aviation emergency operations plans and programs to ensure continuity of civil aviation operations during a national emergency
- Manages and monitors AXR involvement in the activities of the International Civil Aviation Organization (ICAO)
- Develops, coordinates, and monitors the long-range plans and objectives within the AXR complex
- Develops budgetary policies and procedures and prepares consolidated program budgets for the AXR organization
- Ensures that the offices within AXR have active, effective evaluation programs for measuring the effectiveness and productivity of AXR programs

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APR Goals

1. Encourage professionalism and job satisfaction within APR.

2. Enhance the Aviation Safety Analysis System and overall information resourcemanagement.

3. In-prove the APR culture.

4. Support Regulatory Standards and Compliance programs.

5. Institutionalize a management philosophy that embraces planning and evaluation.

Title AXR Planning Program

Responsible Office: Plans and Special Program Branch, APR-130

Goal: Institutionalize a management philosophy that embraces planning and evaluation.

Purpose: The purpose of this project is to establish within the AXR offices a planning process by which AXR can formulate its policies, decisions, and a strategic plan.

Description: Each AXR off ice director is responsible for the development of its own planning initiatives. The Executive Director for Regulatory Standards and Compliance will provide the leadership and sense of direction for the establishment of a cohesive, integrated planning framework for the AXR complex. The Off ice of Program and Resource Managerrent is the focal point for consultation, guidance, and facilitation on planning matters and is responsible for the preparation of the AXR Plan with input from all AXR offices.

Each AXR office is encouraged to have either a planning position or focal point in order to focus on and perpetuate planning as a vital part of the AXR management philosophy. As a fledgling program in the AXR complex, the approach is to begin on a small scale by getting each off ice to incorporate planning and analysis into its program/project development and to later build into a more formal planning process. It should be stressed that the intent is not to become process oriented but merely to use planning to facilitate decisionmaking. It should also be stressed that planning is a continuous activity.

The annual AXR Five-Year Plan is the comprehensive document containing information from each AXR office on their goals, program direction, resource requirements, project approach, and the activities and strategies necessary to accomplish their goals.

Miles tones: Variable depending upon each AXR off ice except for the annual publication of the AXR Plan.

Related Projects: Project SAFE, Project SMART, Project SECURE

Interface Offices: All AXR offices

Remarks:

TITLE: Emergency Operations Plans

RESPONSIBLE OFFICE: Plans and Special Programs Branch, APR-130

GOAL: Enhance FAA management of emergency operations, organize airlift capability, and ensure the total air transportation system is ready to maximize support of national objectives during emergency conditions.

PURPOSE: Maintain positive control of aviation resources necessary to conduct a major mobilization to include the pre-, trans-, and post-attack phase of operations.

DESCRIPTION: The Emergency Operations Plans consist of the following major projects/programs:

a. War Air Service Program (WASP). Maintains essential civil routes and services, and establishes an air priority system.

b. Continental (U.S.) Airborne Reconnaissance and Damage Assessment (CARDA). Provides for reporting nuclear detonations.

c. Civil Air Carrier Dispersal Plan. Provide a list of "Safe Haven" airports and dispersal guidance to civil air carriers.

d. State and Regional Disaster Airlift (SARDA) Plan. Assure the effective use of general aviation aircraft in support of survival or recovery operations during emergencies within a state or region.

e. Federal Airport Controller Program. This would provide a management system to expedite and coordinate aircraft maintenance, servicing, cargo loading, and passenger operations at airports during times of national mobilization.

f. AXR Emergency Operations Plan. An AXR Order which will detail AXR office support for emergency operations.

g. Training. Train and prepare personnel to perform emergency duties.

APPROACH: Publish current guidance concerning all emergency operations plans, and distribute to appropriate FAA personnel, other federal and state agencies, and the civil aviation community. After documents are updated, training scenarios must be developed and implemented throughout the FAA.

OUTCOME: The FAA will have current emergency operations plans along with improved capability for command and control. Personnel with emergency assignments will be trained to perform their emergency function during exercises or actual emergencies.

MILESTONES:

1990 - Publish joint DOT/FAA regulation for WASP. Develop and publish revised FAA CARDA Operations Plan. Coordinate new SARDA Memorandum of Understanding (MOU), and new SARDA Advisory Circular. Publish the MOU. Develop and publish new AXR Emergency Operations Plan. Obtain approval to explore Federal Airport Controller Program with airports.

1991 - Publish new SARDA Advisory Circular. Assist states in developing new SARDA plans. Develop and begin administering new FAA training program for emergency operations. Provide evaluation and feedback during exercise scenarios. Develop Federal Airport Controller draft regulation and publish in Federal Register for comments.

1992 - Continue with assistance to states developing SARDA plans. Continue with enhanced internal training programs for emergency operations. Finalize and publish Federal Airport Controller regulation in Federal Resister. Start contracts for volunteer airports in the Federal Airport Controller Program.

1993 - Review data for Air Carrier Dispersal Plan airports and update as necessary.

RELATED PROJECTS: These programs may be implemented individually or in combination depending upon the nature and severity of the emergency. The WASP, CARDA, SARDA, and Civil Air Carrier Dispersal Plan are agency-wide plans. The AXR Emergency Operations Plan will direct the AXR functions required for these programs. The Federal Airport Controller Program will probably be part of the WASP.

INTERFACE OFFICES: Emergency Operations Staff (ADA-20); Department of Transportation, Research and Special Programs Administration, Office of Emergency Transportation (DET-1); Aviation Standards National Field Office (AVN); Associate Administrator for Air Traffic (AAT); Air Traffic Operations (ATO); All CONUS ARTCCs; Associate Administrator for Airports (ARP); All AXR offices; FEMA Direction and Control (D&C) Branch: Air Force Emergency Operations Center (AFEOC/CCC); Military Airlift Command, Civil Air Plans (MAC/XPW); Office of Secretary of Defense, Directorate for Transportation Policy: Joint Chiefs of Staff, Logistics Directorate: Air Force National Security Emergency Preparedness Office (AFNSEP).

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TITLE: Air Carrier Internal Evaluation Program

RESPONSIBLEOFFICE: Plans and Special Programs Branch, APR-130

GOAL: Support Regulatory Standards and Compliance Programs

PURPOSE: Provide an additional method of ensuring compliance with safety and security requirements by establishing an internal evaluation function within air carrier organizations.

DESCRIPTION: Develop guidance material that will give air carriers a framework to voluntarily initiate an internal evaluation process in maintenance, flight operations, and security areas. Assess need for regulatory changes to require internal evaluation.

APPROACH: Through FAA and industry dialogue, determine present level of internal evaluation activity. Develop workable guidelines for establishing evaluation function that defines role, scope of activities, and interface with FAA. Work with air carriers to refine internal evaluation processes, information sharing, reporting, and other issues.

OUTCOME: Increased airline accountability for regulatory compliance and heightened awareness of airline senior management of safety issues.

MILESTONES:

Action plan development (completed)	1st Qtr FY-89
Internal evaluation issues analysis	2nd Qtr FY-89
Draft Internal Evaluation Guide (completed)	3rd Qtr FY-89
FAA/industry briefings/visits	2nd-3rd-4th Qtr FY-89
Assess voluntary program development, refine guidance material	4th Qtr FY-89
Assess the need for regulatory action to mandate internal evaluation for all air carriers	FY-90

RELATED PROJECTS: Part 121.380 Review, AVN Safety System Review, REAP, Anti-Drug Program

INTERFACEOFFICES: AFS, ACS, AGC, AVS-1, AVR-1, AXR-1, ARM-1

REMARKS: A three-year contract was awarded to Phaneuf Associates Inc. to provide records examination and analytical support.

Title: Focus Group Meetings

Responsible Office: Plans and Special Programs Branch, APR-130

Goal: Support Regulatory Standards and Compliance Programs

Purpose: Plan, arrange, and conduct Focus Group Meetings with selected AXR groups on particular subjects on an annual basis in order to focus management attention on specific areas.

Description: This is a followup to Administrator McArtor's Focus Group Meetings with various FAA employee groups. They will probably be continued by the new Administrator and/or AXR-1, AVS-1, AVR-1.

Approach: Set up meetings' in various regions, handling logistical arrangements, etc., to facilitate these meetings. They will be tailored to specific groups' needs. Where possible, questions and concerns will be resolved at the meetings. If not, followup/follow-through will ensue.

Milestones: Schedule to be determined.

Related Projects:

Interface Offices: All AXR offices, AOA

Remarks:

Title: Human Resource Management

Responsible Office: Program Management Division, APR-100

Goal: Encourage professionalism and job satisfaction within APR

Purpose: To increase productivity through increased motivation, improve morale, and offset "burnout"

Description: Each APR division will institute a process for enhancing managerial/employee development skills.

Approach: Recurrent training through video modular training exercises, exchange of communication throughout division through all hands meetings, employee enchancement groups, and other training as appropriate.

Milestones: Variable depending on division requirements.

Related projects:

Interface Offices: All APR divisions

Remarks:

Title: Research and Development (R&D) Program Management

Responsible Office: Administrative Management Branch, APR-110

Goal : To encourage the quality and quantity of research projects impacting the aviation industry and industrial safety.

Purpose: To assure the needed research and development projects within the AXR complex are identified and have the appropriate priority and management support for effective accomplishment of project objectives.

Description: Evaluation of the function of R&D program management will be conducted to make recommendations to AXR regarding the management and control of AXR related R&D projects. These evaluations of management functions are accomplished in concert with Order VS 9500.1A.

Approach: Bring the cognizant offices of the AXR complex together to evaluate the R&D process within AXR. Procedures and guidelines for the accomplishment of the program objectives are found in Order VS 9500.1A. A. Requirements Review Group (RRG) will be established to evaluate the R&D process and the corresponding proposals.

Outcomes: Agreement on roles and functions will be reached and an orderly program management will result in successful accomplishment of R&D goals and objectives.

Milestones:

Working group established to evaluate roles and functions	July 1990
RRG schedule will be written and distributed for review	July 1990
Quarterly after evaluation is completed, quarterly feedback reports will be provided to AVR/AVS and AXR	January 1991

Related Projects: R&D programs listed in the Research, Engineering and Development (R,E&D) Plan.

Interface Offices: AFS,ACS, AAM, AIR, AAI, ARM, AVN

Remarks:

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Related Projects: R&D programs listed in the Research, Engineering and Development (R,E&D) Plan.

Interface Offices: AFS, ACS, AAM, AIR, AAI, ARM, AVN

Remarks:

- July/August 1989 - monthly meetings convened involving all offices and services of the AXR complex and designated AXR Special Assistants.

- September 1989 - begin evaluations of training.

- October 1990 - develop contract for AXR Training Management Study.

- December 1990 - investigate and identify data processing requirements to meet the needs of an AXR training system.

- January 1991 - selection of computer equipment to support the training data base objectives.

- June 1991 - contract for the development of AXR training data base.

- November 1993 - first computer generated call for training.

Related Projects:

Interface Offices: AHT, AFS, AAM, ACS, AIR, AAI

Remarks: The training specialist will require additional support in the area of computer requirement identification. This can be accomplished through the use of contractual support. Additional training specialists may need to be retained.

Title: Career Enhancement Initiatives

Responsible Off ice : Administrative Management Branch, APR-110

Goal: To develop an AXR managerial selection procedure and to increase the representation of women and minor ities in the AXR work force.

Purpose : To ensure there is a communication and need requirement developed between sources of managerial/employee accessions and the AXR hiring officials.

Description: The program requires the hiring of a specialist who will be able to impact the managerial and affirmative action hiring programs. This specialist will be dedicated to improving the attractiveness of the FAA/AXR complex as a career choice and communicating qualification requirements of the AXR work force through currently non-traditional means employed by AXR. Attendance at conferences, conventions, etc. , as an active participant/speaker will increase the knowledge of the target cohort group about the needs of the FAA/AXR.

Approach : The specialist will serve as the catalyst for AXR in developing SIDP approaches within the complex. Procedures and processes for managerial development will be accomplished through the use of occupational work groups which will focus on developing occupational/technical personnel into managers. These same working groups facilitated by the specialist will be able to develop various strategies which would be applied in the selective targeting of desired populations in the specific work force. The specialist would be a catalyst to spread the AXR pride in safety and aviation.

Outcomes: A viable SIDP for each of the AXR offices/services, as appropriate. Increased involvement in the demographic realities of work force maintenance. Increased support in the employee accession process with a major focus on the needs of the AXR community.

Milestones :

- April 1989 - began the SIDP process with AFS/Project SAFE.
- September 1989 - finalize the SIDP for Air/Project SMART.
- October 1989 - develop a needs requirement using program work groups to define strategies and approaches to meeting increased staffing needs.
- November 1989 - begin SIDP initiatives with ACS/Project SECURE and AAM.
- December 1989 - develop a calendar of activities to increase the employment requirements of the AXR complex.
- On-going : develop programs which will communicate to the flying public and industry the AXR technical needs and people requirements.

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TITLE OF PROJECT: Support of Participation in ICAO Meetings

PURPOSE: To insure that all of the requirements of the Interagency Group of International Aviation (IGIA) with respect to U.S. participation in International Civil Aviation Organization (ICAO) meetings are met in a timely and effective manner.

APPROACH/PROCESS/ACTIVITY: Plan pre-meeting preparations in conjunction with the chairperson of the U.S. delegation. This can involve preparatory meetings with participants from other FAA offices, other Federal agencies, and U.S. industry groups at which issues concerning the composition of the U.S. delegation, U.S. positions, and the need for U.S. meeting papers are discussed and informally decided. Formal papers are then developed for U.S. clearance through the IGIA process. During and after the ICAO meeting, prepare U.S. chairman's report, including U.S. positions on any meeting recommendations, for U.S. chairman's approval and submission to IGIA and the U.S. Representative to ICAO.

EXPECTED PRODUCTS/OUTCOME: Well-supported and fully-coordinated U.S. positions on international aviation issues for presentation to ICAO.

RELATED PROJECTS/PROGRAMS: None

OFFICE OF PRIMARY INTEREST: APR-110

SCHEDULE OF EVENTS:

FY 1990:

1. 27th ICAO Assembly September-October 1989
2. Continuing Airworthiness Panel (CAP/2) November 1989
3. Obstacle Clearance Panel (OCP/9) 1st Qtr. 1990
4. MET/COM/OPS/90 Divisional Meeting May-June 1990
5. Aviation Security Panel (AVSECP/4) June 1989

FY 1991:

1. Continuing Airwothiness Panel (CAP/3) 4th Qtr. 1990
2. Operations Panel (OPSP/6) 3rd Qtr. 1991
3. Aviation Security Panel (AVSECP/5) 3rd Qtr. 1991
4. SSR Improvements and Collision Avoidance Systems Panel (SICASP/5) Unspecified

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4. SSR Improvements and Collision Avoidance Systems Panel (SICASP/5) Unspecified

Title: Aviation Safety Analysis System (ASAS)/AXR Automation Program

Responsible Office: Safety Information and Technology Division, APR-300

Goals: There are three major goals of the AXR automation program:

- 0 Improved ability to perform analyses of aviation safety data;
- 0 Improved effectiveness of FAA managers in managing resources and activities; and,
- o Increased productivity of staff at field and regional offices, and in FAA headquarters .

Purpose: The primary objective is to improve the overall effectiveness and efficiency of information management throughout the AXR complex.

Description: The ASAS program is a comprehensive information system designed to collect, store, and organize data so that it is readily available to all users. The databases contain aircraft, airmen, investigation, statistical, and safety information that directly supports the requirements of the AXR organization. ASAS is designed to support both the office automation environment and the specific goals and objectives that are unique to each AXR headquarters, regional and field office.

Approach: The ASAS was initially conceived as a system comprised of a variety of independent safety-related databases which supported existing functional operations. However, the introduction of automation throughout the FAA has resulted in the revision of many operational procedures. Furthermore, the Airline Deregulation Act of 1978, tremendous growth in general aviation, rapidly changing aeronautical technologies, and the rising complexity of safety regulations have had a substantial impact on the workload of AXR personnel. Consequently, the long-range ASAS development plan addresses a single, integrated system design, or architecture, which will collect and organize many types of safety data and will support more sophisticated safety analysis methods.

The basic design philosophy of this system is to provide source-level data entry through computer workstations. Each field office has access to information necessary to perform its daily activities and has a communication capability to enable it to exchange information with the regional and national databases. Self-study training guides with instructional software will be available for all applications as they become operational. Extensive help functions and local data editing are provided to improve the accuracy and completeness of the entered information.

ASAS is the whole, composed of many parts. It is concerned with the hardware, telecommunications, software, databases, analytical and other procedural aspects of improving the FAA's safety information system.

ASAS planning will become an ongoing operation, with new approaches that allow better integration of AXR program planning information with the ADP technology and support planning. Emphasis will be on involving program offices, providing enhanced planning tools, project management, and reporting. Approaches will provide the information necessary to plan future ASAS upgrades to assure the eventual creation of a true corporate database environment supporting the information requirements, needs, and work processes of all AXR offices and personnel.

ASAS training will continue to provide end-user oriented training on individual subsystems operations and use. New and more productive methods and technologies will be explored and emphasis will continue to shift toward using the ASAS as a productivity tool within the individual program offices. Training plans and policies will be developed and updated to insure all users are receiving the level of instruction necessary to perform their functions.

The development and implementation of ASAS subsystems continues to support AXR functional requirements. In particular, the rehosting of the Work Program Management Subsystem (WPMS) and Manufacturing Inspection Management Information Subsystem (MIMIS) from a Burroughs to an IBM environment are major efforts which will result in improved access and usefulness.

A study will be initiated to determine to what extent ASAS data will be disseminated outside of the agency and how it will be accessed. Information available through ASAS has been requested by private contractors, aircraft manufacturers, foreign governments and others interested in this data. A decision will be made on how best to serve the needs of all interested parties.

An ASAS database integration effort has also been initiated. The goal of this project is to develop a fully integrated system which will organize data collection and storage using state-of-the-art technologies. This will provide more flexible and systematic access to information by all components of the AXR community, regardless of functional orientation. The integrated ASAS will eliminate unnecessary duplication of data, lack of standardization and inconsistencies in interpretation.

The technology platform is designed to automate the mechanics and processes involved in performing aviation safety activities. The existing environment is suffering from a lack of resources and obsolete equipment. A phased implementation of improvements to the technology platform is planned over the next few years. The automation hardware acquisition strategy involves the purchase of an additional 2,710 microcomputers, including 200 local area network servers, by the end of FY 1991. These microcomputers will improve the agency's ability to regulate, inspect, evaluate, enforce, secure, and reduce the risk factors associated with flying and are in direct support of the FAA's efforts to develop and maintain safety information systems.

Updating and modernizing the AXR automation technology platform has been initiated by applying research and development resources to areas that can potentially benefit the entire FAA. Specific areas include use of optical disk storage techniques where large ASAS databases could be on personal computers, such as Federal Aviation Regulations, Aircraft Registration files, or enforcement information. Plans also include researching the use of optical scanning devices and personal computer-based facsimile software which can replace manual data entry and typing functions.

Outcome The long-term goal is to develop and implement a cost-effective, fully integrated, comprehensive, and automated certification and safety information system that will meet the needs of all the organizational elements within the agency. The system will provide the capability to satisfy information needs, within the constraints of relevant laws, to meet the growth in aviation contained in National Airspace System (NAS) forecasts; provide data support to identify potential safety issues; furnish management information to enhance employee utilization and productivity; provide the capability to respond more efficiently to internal and external requests for information; and provide timely and accurate information which is easily accessible by users.

Milestones:

ASAS PLANNING

1. Continue publication of the AXR Data Systems Encyclopedia each year.

2. Continue strategic planning effort in FY-89 and publish an integrated long-range AXR Information Resources Plan in FY-90; produce yearly updates.

ASAS TRAINING

1. Publish updated training plan in FY-90 and produce yearly updates.

2. Develop project for exploring new ASAS training methods and technologies, and produce recommendations for their use in FY-90.

3. Continue coordination with the FAA Academy and development of self-study training materials for each new operational system.

SUBSYSTEM DEVELOPMENT AND IMPLEMENTATION

1. Begin WPMS and MIMIS rehosting in FY-89 and complete in FY-90.

2. Continue subsystem development through FY-92; enhancement of operational systems will be ongoing.

3. Evaluation of AXR subsystems will continue through FY-92.

4. Continue database integration effort through FY-92.

EXTERNAL DATABASE ACCESS

1. Initiate data dissemination study in FY-89.

DATA QUALITY

1. A comprehensive data quality plan will be developed in early FY-89 and will be applied against ASAS subsystem on an ongoing basis.

SECURITY

1. A security certification review of ASAS was conducted in FY-88/89. Recommended actions to strengthen system security will begin in FY-89 and continue into FY-90.

DATA STANDARDS

1. Data element standards were developed in FY-88/89 in order to develop an integrated ASAS. These initial standards will be applied to a rehosted WPMS and MIMIS in FY-89 and on an ongoing basis with all systems.

TECHNOLOGY PLATFORM

1. PRE-OATS

Phase I will replace the Burroughs and has an estimated life cycle of 5 years with projected costs of $10.0 million. This will begin in FY-89 prior to the Office Automation and Technology Services (OATS) contract award.

2. OATS

Phase II will improve, enhance, and expand the microcomputer base over the next several years with projected costs of $28.8 million. This will start with the OATS contract award, expected in FY-90.

3. Evaluation of AXR subsystems will continue through FY-92.

4. Continue database integration effort through FY-92.

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AXR/APR Evaluation Program

Responsible Office: Evaluation and Analysis Division, APR-400

Goal: To have a positive, noticeable impact on AXR programs through the evaluation process.

Purpose: To ensure that the offices within AXR have active, effective evaluation programs and to conduct evaluations on APR programs or other programs, on request.

Description: The program entails the development of AXR evaluation policy and procedure; the provision of evaluation advice and assistance for all AXR offices; the development and delivery of formal and informal evaluation training; and the conduct of evaluations, including their design, selection of methodology, collection of data and presentation of results.

Approach: The following activities are being pursued on an ongoing basis to facilitate goal accomplishment:

- The conduct of evaluations, using AXR personnel on teams (thus training individuals and role-modeling effective evaluations).
- Evaluation of the AXR Evaluation Program, including analysis of AXR annual report input for substantive program results; analysis of AXR office evaluation reports for conformance to program standards and for trends; and the provision of tailored, hands-on training for each Evaluation Officer as indicated.
- Search for an already-developed, non-OPM program evaluation training course.
- Automation of an evaluation analysis/tracking system.

Outcomes:

- An increase in the number of AXR evaluations that are truly program evaluations
- A cadre of AXR Evaluation Officers trained in program evaluation concepts and methods
- An AXR Annual Report with substantive content

Milestones:

- Completion of a Management Effectiveness Evaluation in each AXR office by end of FY-90
- Completion of a formal evaluation of the AXR Evaluation Program by end of FY-90

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Title: Five-Year Budget Planning

Responsible Office: Resource Management and Analysis Division, APR-500

Goal: To become the major planning document for formulating the budget.

Purpose: To provide a management tool that allows for efficient and effective identification of resource requirements for total functions and activities, and to have that same tool enable managers to effectively challenge or support resource requirements.

Description: The five-year plan will be the document used to project future year requirements and measure program performance. Using the requirements in this document, APR should be able to formulate the upcoming budget with some adjustments based on change in priorities.

Approach: Using the budget year as the base out-years are projected indicating the future cost of current programs as well as the cost of known new initiatives and/or program increases. The budget will be formulated with the participation of the regions, by way of the response to the Call for Estimates to the program offices.

Outcome: This will be the principal method for long-range planning and measuring the actual activity against the plan.

Related Projects: Annual Call for Estimates which provides the instructions for the upcoming budget year.

Interface Offices: The Office of Budget, Regional Budget and Program Offices, and the AXR Washington Program Offices.

Remarks: The five-year plan is the basis used by OMB for projecting the Federal Government's deficit. In projecting out-year estimates, we want to include all foreseen requirements, because these estimates will become the basis for the next budget year. The five-year budget plan should allow AXR to obtain the resources required to achieve the goals of its five-year strategic plan.

Title: A-76 Program Management

Responsible Office: Resource Management and Analysis Division, APR-500

Goal : To provide the most efficient and cost effective way of managing the AXR programs.

Purpose: To improve economy and productivity within AXR Program areas by participating in OMB's A-76 program.

Outcome: Implementation of the most efficient organizational structure for all AXR program areas studied; and identification of those activities that the private sector can do at less cost than the government.

Milestones: Milestones will vary from study to study depending on productivity improvement.

Related Projects: None

Interface Offices: Office of Management Systems, AXR Program Offices and the Office of Budget.

Remarks: We will continue to work with AMS and ABU on the A-76 process to achieve the goals stated above.

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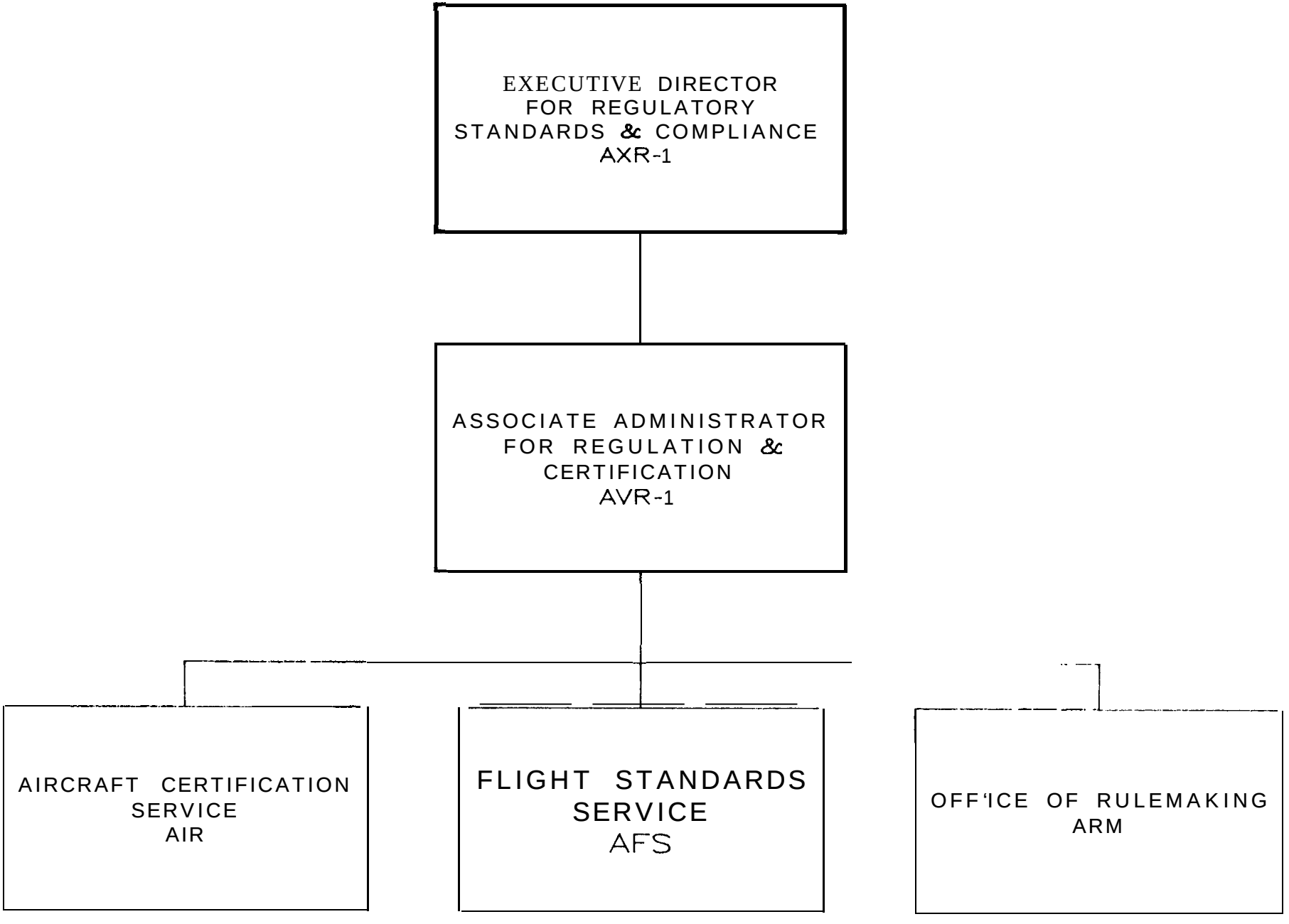
EXECUTIVE DIRECTOR
FOR REGULATORY
STANDARDS & COMPLIANCE
AXR-1
ASSOCIATE ADMINISTRATOR
FOR REGULATION &
CERTIFICATION
AVR-1
AIRCRAFT CERTIFICATION
SERVICE
AIR
FLIGHT STANDARDS
SERVICE
AFS
OFFICE OF RULEMAKING
ARM

The Associate Administrator for Regulation and Certification (AVR-1) provides executive leadership for the AVR organization and is responsible for directing, coordinating, controlling, and ensuring the adequacy of the substantive aspects of FAA activities and rulemaking actions relating to the safety of flight. This includes directing certification, inspection, and surveillance activities to assure the adequacy of flight procedures, operating methods, airmen qualification and proficiency, aircraft maintenance, and prescribing standards governing the design, production quality assurance, and airworthiness certification of aeronautical products.

The Aircraft Certification Service (AIR), Flight Standards Service (AFS), and Office of Rulemaking (ARM) report directly to AVR-1. The organizational structure for AVR is shown on page III-2, and resources are depicted on page III-4.

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CHAPTER IV

AIRCRAFT CERTIFICATION SERVICE

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Introduction

In the most general sense during the next five years, the Aircraft Certification Regulatory Program plans to strengthen its aging aircraft program and its quality control and engineering delegation surveillance program, to effect further commonality of airworthiness standards internationally, to strengthen the professionalism of our workforce, and to increase productivity.

To date, preliminary actions in support of these broad aims, include, among other actions, the following:

- We have established, as a special emphasis area, an Aging Aircraft Program wherein we are carefully monitoring in-service problems, determining corrective action, and mandating these actions by way of Airworthiness Directives.

- We have established, and plan to staff in the very near future, a new organizational supplement that will be tasked with: monitoring the AIR production approval and engineering delegation surveillance program for health of the aircraft manufacturing industry; and, centrally managing selected audits of such facilities.

- In the early summer this year, we helped to cement our relationships with the airworthiness authorities of other countries by supporting and participating in another extremely successful meeting of the Joint Airworthiness Authorities.

- We have already set in motion preliminary actions in connection with establishing a technical training program that will routinize the creation of new training courses as technological developments advance the state-of-the-art, and that will render our engineering and manufacturing personnel among the most knowledgeable in the aviation community.

- We have written a detailed ADP strategic plan covering equipment we need and special automated systems we will procure, and have begun to staff a branch specializing in systems analysis. Simultaneously, we have furnished our employees, to the extent that our funding allowed, with their own personal computer which has greatly improved productivity in some areas.

Organizational Description

Aviation safety begins with safe aircraft. The Aircraft Certification Service (AIR) promotes safety of flight of civil aircraft within the United States and abroad. Within the FAA, AIR is the principal staff element with respect to the Aircraft Certification Program. This program is concerned with the airworthiness of civil aircraft, including aircraft design type certification, production certification, airworthiness certification, and the engineering standards and practices and manufacturing quality control principles that are applicable to the continued airworthiness of aircraft and aeronautical products.

The Aircraft Certification Service carries out its mission through its Engineering and Manufacturing Divisions in Washington, D.C., the Brussels Aircraft Certification Staff, and a unique working relationship with four of the FAA regions, termed "Directorates," that have been delegated authority to perform certain circumscribed headquarters staff functions relative to the products or sets of products covered by specific Federal Aviation Regulations. The Directorates supervise a network of Aircraft Certification Offices (ACO's) and Manufacturing Inspection District Offices (MIDO's) that also contribute to the accomplishment of the airworthiness function.

AIR has regulatory and policy responsibility for FAR Part 21 (Certification Procedures for Products and Parts), and for the certification programs as addressed both in the Special Federal Aviation Regulations, and in the FAR parts relating to the airworthiness standards for manned free balloons, gliders, and airships. Regulatory and policy responsibility for production certification, airworthiness certification, the airworthiness directives, and the administrative regulations pertaining to the representatives of the Administrator--"designees"--also resides in the Aircraft Certification Service. In addition, national and international type certification procedures that are common to all directorates, as contained in national directives and advisory material, fall within the purview of the Aircraft Certification Service. Finally, the Director of Aircraft Certification maintains cognizance of and evaluates the technical aspects of regulatory and policy actions in progress within the Directorates to ensure consistency across Directorate lines, and to provide staff support to the Administrator in reviewing regional actions.

The Directorates, located in the New England, Central, Southwest and Northwest Mountain Regions, are responsible for the management of the type certification programs and the content of the airworthiness standards for a) engines and propellers; b) normal, utility, acrobatic, and commuter category airplanes; c) normal and transport category rotorcraft; and d) transport category airplanes, respectively.

Because of heavy international trade in civil aircraft and other civil aeronautical products, and aviation manufacturing trends toward multinational joint ventures, co-production agreements, and off-shore sourcing practices, the Aircraft Certification Regulatory Program has an extensive international scope. This requires the Aircraft Certification Service to maintain a close working relationship with its counterpart aircraft certification authorities in many other countries and with the International Civil Aviation Organization (ICAO). The Aircraft Certification Service works closely with and derives support from the Office of International Aviation in establishing and maintaining these relationships and for effecting liaison with the State Department, Commerce Department, and other agencies that may be required concerning international relationships.

The Aircraft Certification Service also conducts technical "readiness evaluations" of the aircraft certification systems of other countries seeking Bilateral Airworthiness Agreements (BAA) with the U.S. upon the request of the Office of International Aviation. Once aircraft certification system readiness is affirmatively determined, the Aircraft Certification Service provides technical assistance to the State Department, through the Office of International Aviation, in negotiating the language of the BAA. The Aircraft Certification Service is responsible for implementation of the BAA and for developing implementation agreements with the aircraft certification authority of the other signatory country.

Functions

a. The Aircraft Certification Service is responsible for administering the Aircraft Certification Regulatory Program (ACRP). Activities of the ACRP include the development and administration of safety standards governing the type, production, and airworthiness certification of aircraft, engines, propellers, and appliances. Noise and emission level determinations are also made during certification. AIR's responsibility in this area begins with the development of safety standards, and continues through making findings of compliance, issuing certificates, monitoring safety performance of the system, and taking corrective action as required for safety and to assure compliance.

b. The major activities of the ACRP include:

(1) Regulatory Policy Development - The development of regulations, standards, policies, directives, and guidance material, including:

(a) Procedural regulations.

(i) Federal Aviation Regulations (FAR) Parts 21, 39 Subparts A, 45*, and 183*, and

(ii) Special Federal Aviation Regulation (SPAR) 36, and other SFAR as may become necessary.

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(i) Production Certificates (PC);

(ii) Approved Production Inspection System (APIS) approvals;

(iii) TSOA quality assurance system approvals; and

(iv) PMA quality assurance system approvals.

(c) Airworthiness certification or approval of aircraft, engines, propellers, materials, parts, and appliances; including:

(i) Standard airworthiness certificates for complete aircraft;

(ii) Special airworthiness certificates for complete aircraft;

(iii) Special flight authorizations for foreign registered aircraft to operate in the U.S.;

(iv) Export airworthiness certificates and approvals;

(v) Conformity and condition inspection reports of aircraft, engines, propellers, materials, parts, and appliances, including prototype articles to be used in design approval testing.

(d) Appointment or approval of private persons (including companies) to function as Representatives of the Administrator, including:

(i) Delegation Option Authorizations (DOA) aircraft manufacturers;

(ii) Designated Alteration Stations (DAS) maintenance facilities (airlines and repair stations);

(iii) SFAR-36 authorizations to maintenance facilities;

(iv) Designated Airworthiness Representatives-(DAR);

(v) Designated Engineering Representatives Manufacturing (DER-mfg), including flight test pilots; and

(vi) Designated Manufacturing Inspection Representative (DMIR).

(3) Continued Airworthiness. - Monitoring the safety performance of certificated or approved civil aeronautical products, production quality assurance systems, authorized "Representatives of the Administrator," and taking corrective action as necessary to assure the continued integrity of issued certificates, approvals, authorizations, and appointments, including:

(a) Suspension, revocation, or directed amendments of existing certificates or approvals;

(b) Issuance of Airworthiness Directives under FAR 39, Subpart B;

(c) Production quality assurance system audits (e.g., WAR) ;

(d) Evaluation of product service revealed difficulty reports;

(e) Re-examination of certificates or approvals for cause (e.g., special design reviews) ;

(f) Evaluation and response to National. Transportation Safety Board (NTSB) recommendations;

(g) Technical support to accident and incident investigations;

(h) Technical support to NTSB hearings ;

(i) Audit findings made by "Representatives of the Administrator" for supervision purposes;

(j) Response to Freedom of Information Act (FOIA) requests;

(k) Response to safety inquiries (congressional, intergovernmental, foreign governments, public) ;

(l) Supervision of designees (DAR, DER, DMIR) ;

(m) Audits organizations authorized to perform as "Representatives of the Administrator" (DOA, DAS, SEAR 36) ;

(n) Technical support for enforcement actions; e.g., civil penalties or administrative actions;

(o) Monitor performance of the aircraft certification authorities of other countries under bilateral airworthiness agreements; and

(p) Assist Flight Standards during audits of maintenance organizations (repair stations and air carriers) to assess adequacy of engineering analyses and data used in repairs, modifications, or alterations.

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Projects

A major management initiative was undertaken by the Aircraft Certification Service in 1988 to upgrade the Aircraft Certification regulatory program called Project SMART. Project SMART is the Aircraft Certification Management Team's master plan for enhancing the Aircraft Certification Regulatory Program (ACRP) with special focus on national organizational development, meeting future needs, promoting human relations, and to assure the continued effectiveness of the ACRP.

The following project sheets highlight a sample of the subprojects under the Project SMART Plan for Performance that will contribute to the successful achievement of their goals. For a comprehensive listing of all Project SMART subprojects, refer to the Project SMART Plan for Performance, available through the Aircraft Certification Service.

TITLE: Continued Airworthiness of Aping Airplanes

RESPONSIBLE OFFICE: **AIR-100** **GOAL: 4**

PURPOSE:

To assure the continued airworthiness and integrity of high time **and** highly utilized **airplanes.**

DESCRIPTION:

Evaluate the effectiveness of continued airworthiness of ● **irplanes** that have high time, high **utilization,** or high cycles (takeoffs **and** Landings) to **assure** continued integrity end airworthiness.

APPROACH:

Establish a teem with the use of technical end advisory consultants to evaluate the effectiveness of continued airworthiness programs to maintain the integrity of **airplanes.** The team will **review** current airworthiness inspection methods and procedures, end will identify research and development efforts needed in this area.

OUTCOME:

Recommendations for more effective utilization of existing m-destructive inspection methods and the identification of specific R&D projects **related** to the subject.

MILESTONES:

Formation of FM teem and contract industry consultants	**4th** Quarter **FY-89**
Participation in airline inspections	**FY-90**
Identification and implementation of **improved** non-destructive inspection methods	**FY-91**
Identification of Research **and Development** efforts needed	**FY-91**
Continued research and **development** efforts	**FY-92**
Continued research end **development** efforts	**FY-93**

RESOURCES:	**FY-89**	**FY-90**	**FY-91**	**FY-92**	**FY-93**
DOLLARS **(000):**	**100**	**150**	**150**	**150**	**150**
FTE'S:	5	5	5	5	5

INTERFACE OFFICES: **AFS,** ACT, **ALG**

REMARKS:

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Continued research end **development** efforts	**FY-92**
Continued research end **development** efforts	**FY-93**

RESOURCES:	**FY-89**	**FY-90**	**FY-91**	**FY-92**	**FY-93**
DOLLARS **(000):**	**100**	**150**	**150**	**150**	**150**
FTE'S:	5	5	5	5	5

INTERFACE OFFICES: **AFS,** ACT, **ALG**

REMARKS:

TITLE: Composite Blade Propellers

RESPONSIBLE OFFICE: **ANE-100** **GOAL:** 4

PURPOSE :

Assure **airworthiness** of new technology propellers.

DESCRIPTION:

Adds new regulations to **address** the **peculiar characteristics** of **composite blades** es **compared** to **blades** of **metal or** wood.

APPROACH:

NPRM based on current **certification** project **experience** to **address requirements/tests** for lightning, bid strikes, end fatigue limits for **composite blades.**

OUTCOME:

Revision to FAR Part **35.**

MILESTONES:

Begin preliminary **research** in **preparation** of **NPRM development**	3rd Quarter **FY-89**
Issue NPRM	**FY-90**
Resolve **comments**	**FY-91**
Issue final rule	**FY-92**

RESOURCES:	**FY-89**	**FY-90**	**FY-91**	**FY-92**	**FY-93**
DOLLARS **(000):**	3	3	**3**	**1.5**	
FTE'S:	**.5**	**.5**	**.5**	**.2**	

INTERFACE OFFICES: **ARM,** APO, **AGC**

REMARKS:

JAR-P is **incorporating** the **proposed** regulatory **requirements** es **special requirements pending** FAA issuance of **an amended** FAR Pert **35.**

TITLE: Composite Blade Propellers

RESPONSIBLE OFFICE: ANE-100 **GOAL:** 4

PURPOSE:

Assure airworthiness of new technology propellers.

DESCRIPTION:

Adds new regulations to address the peculiar characteristics of composite blades es compared to blades of metal or wood.

APPROACH:

NPRM based on current certification project experience to address requirements/tests for lightning, bird strikes, end fatigue limits for composite blades.

OUTCOME:

Revision to FAR Part 35.

MILESTONES:

Begin preliminary research in preparation of NPRM development	3rd Quarter FY-89
Issue NPRM	FY-90
Resolve comments	FY-91
Issue final rule	FY-92

RESOURCES:	FY-89	FY-90	FY-91	FY-92	FY-93
DOLLARS (000):	3	3	3	1.5	
FTE'S:	.5	.5	.5	.2	

INTERFACE OFFICES: ARM, APO, AGC

REMARKS:

JAR-P is incorporating the proposed regulatory requirements as special requirements pending FAA issuance of an amended FAR Pert 35.

TITLE: Structural Integrity of Port 23 Airplane Designs

RESPONSIBLE OFFICE: **ACE-100** **GOAL:** 4

PURPOSE:

lo **assure** the airworthiness standards applicable to the structural integrity of Port **23 airplanes** address the safety issues of advance materials, construction, damage tolerance, and **fatigue.**

DESCRIPTION:

lo review the **airworthiness standards** in Part **23** of the FAR to **assure** the issues of **advance** materiel construction, fatigue, end damage **tolerance** ore **adequately addressed** as requirements.

APPROACH:

Propose an **amendment** to Port **23** addressing the issues of **advanced material** construction, fatigue end damage **tolerance** based on requirements **imposed** by special conditions where the current regulations were found inappropriate.

OUTCOME:

Amendment to Port **23 establishing** airworthiness **standards** for **advanced material** construction, damage **tolerant airplanes, and** fatigue ● valuation.

MILESTONES:

Prepare **and** issue on **NPRM**	**FY-91**
Resolve **comments** to the **NPRM**	**FY-92**
Prepare and issue the final rules	**FY-93**

RESOURCES:	FY-89	FY-90	FY-91	FY-92	FY-93
DOLLARS **(000):**		4	4	3	6
FTE'S:		**1**	1	1	1

INTERFACE OFFICES: APO, ARM, **AGC,** ACT

REMARKS:

TITLE: Guidance Material Concerning Transport **Airplane Performance** and **Operational Issues**

RESPONSIBLE OFFICE: **ANM-100** **GOAL:** 4

PURPOSE:

There is a continuing need to assure **adequate** guidance **material on** performance and **operations** issues.

DESCRIPTION:

Compliance with the **performance and** operations **requirements** of the **airworthiness** standards is often difficult to quantify and/or is subjective innature. This **makes** the availability of **adequate guidance material** essential to on effective type certification effort.

APPROACH:

Discussion of the regulatory **criteria** and acceptable **means** of **compliance** will be **documented.**

OUTCOME:

Various **AC's concerning** operations and performance issues.

MILESTONES:

Publish a notice of **availability** for **draft** AC's on airplane flight **manuals** and pilot **compartment view**	FY-89
Publish a notice of availability for **AC's** on **flight crew complement**	FY-89
Resolve **comments** on draft **AC's** concerning flight **crew complement**	FY-90
Resolve **comments** on draft **AC's** concerning **airplane** flight **manuals** and pilot **compartment** view	FY-90
Publish e notice of **availability** for **AC's** on **flight** test guide **and engine takeoff performance**	FY-91
Resolve **comments on** flight test guide **and engine** takeoff **performance**	FY-92
Issue **AC's** on **airplane flight manuals** and pilot **compartment view**	FY-92
Issue AC on flight **test** guide **and engine takeoff performance**	FY-93
Publish e **Notice** of **Availability** for **AC's** on **flight** test **guide** end **engine** takeoff **performance**	FY-92

RESOURCES:	FY-89	FY-90	FY-91	FY-92	FY-93
DOLLARS (000):	**10**	**10**	5	a	**5**
FTE'S:	**1**	**1.5**	**1.5**	**1.5**	**1**

INTERFACE OFFICES: ABC

REMARKS:

ANM-83-43-A, -83-33-A, -87-8-A, -86-22-A, -86-35-A

TITLE: Guidance Material Concerning Transport **Airplane Performance** and **Operational Issues**

RESPONSIBLE OFFICE: **ANM-100** **GOAL:** 4

PURPOSE:

There is a continuing need to assure **adequate** guidance **material on** performance and **operations** issues.

DESCRIPTION:

Compliance with the **performance** end **operationsrequirements** of the **airworthiness** standards is often difficult to quantify and/or is subjective innature. This **makes** the availability of **adequate guidance material** essential to on effective type **certification** effort.

APPROACH:

Discussion of **the** regulatory **criteria** and acceptable **means** of **compliance** will be **documented.**

OUTCOME:

Various **AC's concerning** operations and performance issues.

MILESTONES:

Publish a notice of ● **vailability** for **draft** AC's on airplane flight **manuals** and pilot **compartment view**	FY-89
Publish a notice of **availability** for **AC's** on **flight crew complement**	FY-89
Resolve **comments** on draft **AC's** concerning flight **crew complement**	FY-90
Resolve **comments** on draft **AC's**concerning **airplane** flight **manuals** and pilot **compartment** view	FY-90
Publish e notice of **availability** for **AC's** on **flight** test guide **and engine takeoff performance**	FY-91
Resolve **comments on** flight test guide **and engine** takeoff **performance**	FY-92
Issue **AC's** on **airplane flight manuals** and pilot **compartment view**	FY-92
Issue AC on flight **test** guide **and engine takeoff performance**	FY-93
Publish e **Notice** of **Availability** for **AC's** on **flight** test **guide** end **engine** takeoff **performance**	FY-92

RESOURCES:	FY-89	FY-90	FY-91	FY-92	FY-93
DOLLARS (000) :	**10**	**10**	5	a	**5**
FTE'S:	**1**	**1.5**	**1.5**	**1.5**	**1**

INTERFACE OFFICES: ABC

REMARKS:

ANM-83-43-A, -83-33-A, -87-8-A, -86-22-A, -86-35-A

TITLE: **Improve** the **Standards** for Transport **Airplane** Emergency Exits

RESPONSIBLE OFFICE: **ANM-100** COAL: 4

PURPOSE:

To **clarify and improve** the standards concerning emergency exits.

DESCRIPTION:

The standards that define the required access to Type III **and** IV exits **that are** used on **transport airplanes** will be improved. In addition, the criteria for the type and **number** of exits required for a transport **airplane** will be clarified.

APPROACH:

Access to Type III and IV exits will be **improved** for future end **existing airplane** designs. The criteria for type **and number** of exits required for future designs will be **clarified** using industry end **public input.**

OUTCOME:

Revised **requirements** in **14CFR 25** and **121** for the access to Type **III** and IV exits. Revised requirements in **14CFR 25** for the type and **number** of exits used.

MILESTONES: **(WHEN)**

Issue two **NPRM's**	**2nd** Quarter **FY-89**
Resolve **comments** on the **NPRM's**	**FY-90**
Issue **final** rules	**FY-91**

RESOURCES:	**FY-89**	**FY-90**	**FY-91**	**FY-92**	**FY-93**
DOLLARS **(000):**	5	5	5		
FTE'S:	I	**1**	**1**		

INTERFACE OFFICES: ARM, APO, ABC, **AFS**

REMARKS:

the Emergency Evacuation Task Force identified the need to clarify end **improve** the **standards concerning emergency** exits.

TITLE: **Improve** the **Standards** for Transport **Airplane** Emergency Exits

RESPONSIBLE OFFICE: **ANM-100** **GOAL:** 4

PURPOSE:

To clarify and improve the standards concerning emergency exits.

DESCRIPTION:

The standards that define the required access to Type III **and** IV exits **that are** used on **transport airplanes** will be improved. In addition, the criteria for the type and **number** of exits required for a transport **airplane** will be clarified.

APPROACH:

Access to Type III and IV exits will be **improved** for future end **existing airplane** designs. The criteria for type **and number** of exits required for future designs will be **clarified** using industry end **public input.**

OUTCOME:

Revised **requirements** in **14CFR 25** and **121** for the access to Type **III** and IV exits. Revised requirements in **14CFR 25** for the type and **number** of exits used.

MILESTONES: **(WHEN)**

Issue two **NPRM's**	**2nd** Quarter **FY-89**
Resolve **comments** on the **NPRM's**	**FY-90**
Issue **final** rules	**FY-91**

RESOURCES:	**FY-89**	**FY-90**	**FY-91**	**FY-92**	**FY-93**
DOLLARS **(000):**	5	5	5		
FTE'S:	I	**1**	**1**		

INTERFACE OFFICES: ARM, APO, ABC, **AFS**

REMARKS:

The Emergency **Evacuation Task** Force identified the need to clarify end **improve** the **standards concerning emergency** exits.

TITLE: **Amendments** to Transport **Airplane Airframe** Loads Standards

RESPONSIBLE OFFICE: **ANM-100** **GOAL:** 4

PURPOSE:

Changes to **airworthiness** standards concerning **structural** loads are required to reflect **changes** in analysis techniques, service experience, and technology.

DESCRIPTION:

Changes ore needed in pressurization loads ● **nalysis** durability of fuel tank **access** panels, **jacking** loads, **aeroelastic loads analysis, basic stall** loads, and **damage/loads due** to bird strikes.

APPROACH:

In addition to **changes** to the standards **contained** in **14CFR 25, changes** to **14CFR 121** will **also be made** for fuel tank access panels, end fuselage pressurization loads.

OUTCOME:

Appropriate **changes** to **14CFR 25** end **121** to address these issues.

MILESTONES:

Resolve **comments** on fuel tank access panels end **pressurization** loads	**4th** Quarter **FY-89**
Issue **NPRM's** on **jacking** loads **and aeroelastic** loads	**FY-90**
Resolve **comments** on jacking loads and ● **eroelastic** Loads	**FY-91**
Issue **NPRM's** on &pressurization **evaluation** loads, **stall** Loads, end bird strike loads	**FY-91**
Issue final rules on fuel **tank** access panels end **pressurization** Loads	**FY-91**
Resolve **comments** on **pressurization** loads, stall **loads, and** bird strike **loads**	**FY-92**
Issue final rule on **jacking loads**	**FY-93**
Issue final rules on **aeroelastic** loads, **stall** loads, **and** bird strike	**FY-93**

RESOURCES:	**FY-89**	**FY-90**	**FY-91**	**FY-92**	**FY-93**
DOLLARS **(000):**	5	5	5	**5**	5
FTE'S:	**1.5**	**2.5**	**3.0**	**2.0**	2

INTERFACE OFFICES: **ARM, APO, AGC, AFS**

REMARKS:

Reference: **ANM-000-86-006, 84-006, 86-005, 88-008, 86-024, 86-041,** end **87-037**

TITLE: Small Turbojet/Turbofan Airplanes

RESPONSIBLE OFFICE: **ACE-100** **GOAL: 4**

PURPOSE:

To establish airworthiness standards in Port 23 of the FAR for small turbojet/turbofan airplanes. The Small Airplane Directorate has applications for TC's for two small turbojets at the present time, and both applicants ore active.

DESCRIPTION:

To amend Port 23 of the FAR to establish criteria for the approval of small turbojet or turbofan airplanes. Criteria will address flight performance, handling qualities, airframe structure for high altitude operations, powerplants, and associated systems, systems and equipment, and operating limitations including detailed continuing airworthiness issues.

APPROACH:

Review previously issued special conditions • d present large airplane standards. Propose an amendment to P o r t 23.

OUTCOME:

Airworthiness standards for high performance small turbojet/turbofan airplanes.

MILESTONES:

Prepare and issue the NPRM's	FY-91
Resolve cements to the NPRM's	FY-93

RESOURCES:	FY-89	FY-90	FY-91	FY-92	FY-93
DOLLARS (000):	6	10	10	10	10
FTE'S:	2	2	2	2	2

INTERFACE OFFICES: APO, ARM, AGC

REMARKS:

In addition to the two applications received, various aviation technical publicationsindicate that another four are in the research stage of development.

TITLE: Small Turbojet/Turbofan Airplanes

RESPONSIBLE OFFICE: **ACE-100** **GOAL: 4**

PURPOSE:

To establish airworthiness standards in **Part 23** of the FAR for **small** turbojet/turbofan **airplanes. The Small** Airplane **Directorate** has **applications** for **TC's** for two **small** turbojets at the present time, and both applicants are active.

DESCRIPTION:

Ye mend Part **23** of the FAR to **establish** criteria for the **approval** of **small** turbojet or turbofan airplanes. Criteria **will** address **flight performance,** handling **qualities,** airframe structure for high altitude operations, **powerplants, and associated** system, systems and **equipment,** and **operating limitations including** detailed continuing **airworthiness** issues.

APPROACH:

Review previously issued **special** conditions **• nd** present large **airplane standards.** Propose an **amendment** to P o r t **23.**

OUTCOME:

Airworthiness standards for high **performance small** turbojet/turbofan **airplanes.**

MILESTONES:

Prepare **and** issue the **NPRM's**	**FY-91**
Resolve **comments** to the **NPRM's**	**FY-93**

RESOURCES:	**FY-89**	**FY-90**	**FY-91**	**FY-92**	**FY-93**
DOLLARS **(000):**	**6**	**10**	**10**	**10**	**10**
FTE'S:	2	2	2	2	2

INTERFACE OFFICES: APO, ARM, AGE

REMARKS:

In addition to the two **applications received, various aviation technicalpublications indicate** that **another** four **are in** the **research stage** of **development.**

TITLE: Glider, Balloon, and Restricted Category Small Airplane Review

RESPONSIBLE OFFICE: ACE-100 GOAL: 4

PURPOSE:

A periodic review of glider, balloon, end restricted category small airplane performance standards and policy is needed to assure they are current and result in safe aircraft.

DESCRIPTION:

The review would include both unpowered and powered gliders, both standard and odd shape balloons, and restrict& category small airplanes. Regulation changes and/or policy changes may be identified.

APPROACH:

Past certification programs, policy files, and foreign requirements will be reviewed. Needed changes in either regulation or policy will be mode.

OUTCOME:

The minimum performance standards and/or policy for gliders, balloons, and restricted category small airplanes will be current and reflect the state-of-the-art.

MILESTONES:

Complete review	FY-90
Make regulation/policy changes	FY-92

RESOURCES:	FY-89	FY-90	FY-91	FY-92	FY-93
DOLLARS (000):	2	2	2	2	
FTE'S:	1	.3	.3	.3	

INTERFACE OFFICES: APO, ARM, AGC

REMARKS:

TITLE: Glider, Balloon, and Restricted Category Small Airplane Review

RESPONSIBLE OFFICE: ACE-100 GOAL: 4

PURPOSE:

A periodic review of glider, balloon, end restricted category small airplane performance standards and policy is needed to assure they are current and result in safe aircraft.

DESCRIPTION:

The review would include both unpowered and powered gliders, both standard and odd shape balloons, and restrict& category small airplanes. Regulation changes and/or policy changes may be identified.

APPROACH:

Past certification programs, policy files, and foreign requirements will be reviewed. Needed changes in either regulation or policy will be made.

OUTCOME:

The minimum performance standards and/or policy for gliders, balloons, and restricted category small airplanes will be current and reflect the state-of-the-art.

MILESTONES:

Complete review	FY-90
Flake regulation/policy changes	FY-92

RESOURCES:	FY-89	FY-90	FY-91	FY-92	FY-93
DOLLARS (000):	2	2	2	2	
FTE'S:	1	.3	.3	.3	

INTERFACE OFFICES: APO, ARM, AGC

REMARKS:

TITLE: Contingency Ratings for Non-Rotorcraft Engines

RESPONSIBLE OFFICE: ANE-100 GOAL: 4

PURPOSE:

Provide regulatory provision for emergency power rating after engine loss in multi-engine airplanes.

DESCRIPTION:

Define and establish type certification standards for contingency ratings for fixed-wing aircraft turbine engines.

APPROACH:

Initiate proposal by ANPRM and public meeting. Follow with NPRM if justified.

OUTCOME:

Revised FAR Part 33.

MILESTONES:

Begin preliminary research in preparation of ANPRM development	FY-90
Issue ANPRM	FY-91
Convene public meeting	FY-91
Publish NPRM	FY-93
Resolve comments	FY-93

RESOURCES:	FY-89	FY-90	FY-91	FY-92	FY-93
DOLLARS (000):		2	7	7	3
FTE'S:		.3	.4	.4	.2

INTERFACE OFFICES: ARM, APO, AGC

REMARKS:

TITLE: Contingency Ratings for Non-Rotorcraft Engines

RESPONSIBLE OFFICE: ANE-100 GOAL: 4

PURPOSE:

Provide regulatory provision for emergency power rating after engine loss in multi-engine airplanes.

DESCRIPTION:

Define and establish type certification standards for contingency ratings for fixed-wing aircraft turbine engines.

APPROACH:

Initiate proposal by ANPRM and public meeting. Follow with NPRM if justified.

OUTCOME:

Revised FAR Part 33.

MILESTONES:

Begin preliminary research in preparation of ANPRM development	FY-90
Issue ANPRM	FY-91
Convene public meeting	FY-91
Publish NPRM	FY-93
Resolve comments	FY-93

RESOURCES:	FY-89	FY-90	FY-91	FY-92	FY-93
DOLLARS (000):		2	7	7	3
FTE'S:		.3	.4	.4	.2

INTERFACE OFFICES: ARM, APO, AGC

REMARKS:

TITLE: Rotorcraft Fuel System--Crashworthiness

RESPONSIBLE OFFICE: ASW-100 GOAL:

PURPOSE:

To reduce injuries and fatalities resulting from ignition of flammable fluids following an otherwise survivable rotorcraft crash.

DESCRIPTION:

Develop rulemaking with close attention to benefits (lives saved) versus costs of current designs.

APPROACH:

Study developments in crash-resistant fuel systems, considering increased cost and weight penalties associated with these designs.

OUTCOME:

Regulatory amendment to FAR Parts 27 and 29.

MILESTONES:

Issue NPRM	FY-89
Resolve comments	FY-90
Issue final rule	FY-91

RESOURCES:	FY-89	FY-90	FY-91	FY-92	FY-93
DOLLARS (000):	4	4	2		
FTE'S:	.5	.5	.5		

INTERFACE OFFICES: APO, ARM, AGC

REMARKS:

TITLE: Rotorcraft Fuel System--Crashworthiness

RESPONSIBLE OFFICE: ASW-100 GOAL:

PURPOSE:

To reduce injuries and fatalities resulting from ignition of flammable fluids following an otherwise survivable rotorcraft crash.

DESCRIPTION:

Develop rulemaking with close attention to benefits (lives saved) versus costs of current designs.

APPROACH:

Study developments in crash-resistant fuel systems, considering increased cost and weight penalties associated with these designs.

OUTCOME:

Regulatory amendment to FAR Parts 27 and 29.

MILESTONES:

Issue NPRM	FY-89
Resolve comments	FY-90
Issue final rule	FY-91

RESOURCES:	FY-89	FY-90	FY-91	FY-92	FY-93
DOLLARS (000):	4	4	2		
FTE'S:	.5	.5	.5		

INTERFACE OFFICES: APO, ARM, AGC

REMARKS:

TITLE: Automated Mapping of ACRP Workload

RESPONSIBLE OFFICE: **AIR-500** GOAL: 3

PURPOSE:

Enable **ACRP managers** to identify workload **volume** by **geographic** location. This **information** will assist in **making** decisions regarding field office location and staffing **allocations.**

DESCRIPTION:

The automated system will be **capable** of depicting visually on a **geographic** display the concentration of **ACRP** workload.

APPROACH:

A contractor will **be** hired to provide software, **compatible** with the Aircraft **Certification Service's** existing hardware, which will **be** capable of storing, **manipulating, and geographically** displaying workload data. **Data** will **be** gathered by the contractor and loaded into the system.

OUTCOME:

Implementation of an **automated** system for geographically **mapping workload** data.

MILESTONES:

Select contractor	**3rd Quarter FY-89**
Finalize system **requirements document**	**4th** Quarter **FY-89**
Operational test of **software**	**2nd** Quarter **FY-90**
Implement system	**4th** Quarter **FY-90**

RESOURCES:	**FY-89**	**FY-90**	**FY-91**	**FY-92**	**FY-93**
DOLLARS **(000):**	**50**	**50**			
FTE'S:	**.25**	**.25**			

INTERFACE OFFICES: APR

REMARKS:

TITLE: Automated Mapping of ACRP Workload

RESPONSIBLE OFFICE: **AIR-500** GOAL: 3

PURPOSE:

Enable **ACRP managers** to identify workload **volume** by **geographic** location. This **information** will assist in **making** decisions regarding field office location and staffing **allocations.**

DESCRIPTION:

The automated system will be **capable** of depicting visually on a **geographic** display the **concentration** of **ACRP** workload.

APPROACH:

A contractor will **be** hired to provide software, **compatible** with the Aircraft **Certification Service's** existing hardware, which will **be** capable of storing, **manipulating, and geographically** displaying workload data. **Data** will **be** gathered by the contractor and loaded into the system.

OUTCOME:

Implementation of an **automated** system for geographically **mapping** workload data.

MILESTONES:

Select contractor	**3rd Quarter FY-89**
Finalize system **requirements document**	**4th** Quarter **FY-89**
Operational test of **software**	**2nd** Quarter **FY-90**
Implement system	**4th** Quarter **FY-90**

RESOURCES:	**FY-89**	**FY-90**	**FY-91**	**FY-92**	**FY-93**
DOLLARS **(000):**	50	50			
FTE'S:	.25	.25			

INTERFACE **OFFICES: APR**

REMARKS:

TITLE: **Automated Comprehensive Job** Task **Analysis**

RESPONSIBLE OFFICE: **AIR-500** **GOAL:** 3

PURPOSE:

Provide the **ACRP** with a **comprehensive, automated resource management** system.

DESCRIPTION:

An analysis of the tasks of the various specialty **groups comprising** the **ACRP.** The **information** provided includes: tasks, delay tolerance, task output, **significant** interfaces, when **performed,** forms, procedural guidance, standards, **time** required, steps, **procedures** and **KSAO** data.

APPROACH:

A **contractor** will be used to **facilitate,** gather, organize, **and** automate the data. A rolling **panel** approach using FM specialists with formal reviews by subject matter experts and **management.**

OUTCOME:

An automated data base which is **comprehensive, complete, integrated, modularized, uniform,** and prescriptive allowing for enhanced management/technical **decisionmaking.**

MILESTONES:

JTA	**Complete**	**Load Data** Base	**FY-91**
KSAO	**2nd** Quarter **FY-89**	Beta lest	**FY-91**
Requirements Document	**4th Quarter FY-89**	**Train/Procedure**	**FY-92**
Contractor	**2nd** Quarter **FY-90**	**Implementation**	**FY-92**
Hardware/Software	**4th Quarter FY-90**	**Training/Modification**	**FY-93**

RESOURCES:	**FY-89**	**FY-90**	**FY-91**	**FY-92**	**FY-93**
DOLLARS **(000):**	**200**	LOO	**300**	**100**	**50**
FTE'S:	2	3	2	1	1

INTERFACE OFFICES: **AMS,** ARM, **AVN, CAMI, TSC**

REMARKS:

TITLE: **Automated Comprehensive Job** Task Analysis

RESPONSIBLE OFFICE: **AIR-500** **GOAL:** 3

PURPOSE:

Provide the **ACRP** with a **comprehensive, automated resource management** system.

DESCRIPTION:

An analysis of the tasks of the various specialty **groups comprising** the **ACRP.** The **information** provided includes: tasks, delay tolerance, task output, significant interfaces, when **performed, forms,** procedural guidance, standards, time required, steps, **procedures** and **KSAO** data.

APPROACH:

A **contractor** will be used to facilitate, gather, organize, and automate the data. A rolling **panel** approach using FM specialists with formal reviews by subject **matter** experts and **management.**

OUTCOME:

An automated data base which is **comprehensive, complete, integrated, modularized, uniform,** and prescriptive allowing for enhanced management/technical **decisionmaking.**

MILESTONES:

JTA	**Complete**	**Load Data** Base	**FY-91**
KSAO	**2nd** Quarter **FY-89**	Beta lest	**FY-91**
Requirements Document	**4th Quarter FY-89**	**Train/Procedure**	**FY-92**
Contractor	**2nd** Quarter **FY-90**	**Implementation**	**FY-92**
Hardware/Software	**4th Quarter FY-90**	**Training/Modification**	**FY-93**

RESOURCES:	**FY-89**	**FY-90**	**FY-91**	**FY-92**	**FY-93**
DOLLARS **(000):**	**200**	LOO	**300**	**100**	**50**
FTE'S:	**2**	**3**	**2**	1	1

INTERFACE OFFICES: **AMS, ARM, AVN, CAMI, TSC**

REMARKS:

TITLE: Regulatory: Production Certification Simplification

RESPONSIBLE OFFICE: **AIR-200** GOAL: 4

OUTCOME: (Product)

Revise FAR Part **21,** Subparts **F, G, K,** and **O.**

REASON: **(Why)**

There is a need to update and standardize the Duality Assurance **(QA)** system requirements the FAA imposes on production approval holders due to four differing types of PA system requirements currently in existence in the FAR. **The** updated regulations must also be consistent with internationally recognized PA system standards.

DESCRIPTION: **(What)**

Standardize the **QA** system requirements in Part **21,** Subparts **F, G, K,** and **O,** include a requirement for a manufacturer's self-audit program, and provide for the issuance of a Provisional Production Certificate.

APPROACH: **(How)**

The proposed regulation will be a direct result from feedback provided by FAA/public and will be accomplished by establishing coordination between FAA headquarters and FAA field elements; and the industry.

MILESTONES: **(When)**

First Draft **NPRM**	**FY-90**
Issue **NPRM**	**FY-91**
Resolve comments	**FY-91**
Issue Final Rule	**FY-92**

RESOURCES:	FY-90	FY-91	FY-92	FY-93	FY-94
DOLLARS(000):	75	75	50		
FTE'S:	.90	.75	.75		

RELATED PROJECTS: **D-20,** D-AA, **D-AB, D-19**

INTERFACE OFFICES: **AGC,** ARM, **AFS,** APO, ACE, **ANE, AWS, ANM**

REMARKS: Request for contractor support submitted to **ARM.** **.02 FTE/$1.0k** per directorate for **FY-90.**

TITLE: Advisory Circular/Directive: The Aircraft Certification Audit Program (ACAP)

RESPONSIBLE OFFICE: AIR-200 GOAL: 4

OUTCOME: (Product)

Current and adequate directive/advisory circular available to the public and FAA personnel.

REASON: (Why)

The FAA is revising its audit program and auditor qualifications to coincide with internationally accepted audit standards. Additionally, a new division is being created to trend audit results and act as team leaders on audits of select production approval holders which have a high impact on safety or are multinational in structure.

DESCRIPTION: (Why)
Develop a directive/advisory circular that describes a centrally managed audit program of aircraft, engine, propeller and parts manufacturers; and audits of facilities holding delegation option authority, a delegated alteration station and Special FAR 36 repair authorization. Include a description of monitoring and analyzing all production approval holder audits and selecting those who have a high immpact on safety.

APPROACH (How)

The audit program will be structured, systematic and indepth. It will be conducted by teams of FAA manufacturing inspectors, FAA engineers and, as appropriate, contracted support. A prototype will be developed and tested. Hold or participate in international aviation industry meetings to explain program.

MILESTONES: (When)

Initial training and implement prototype	1st Quarter FY-90
Identify criteria to select "Top 20"	2nd Quarter FY-90
Finalize program, issue guidance and identify training requirements	3rd Quarter FY-90

RESOURCES:	FY-90	FY91	FY-92	FY-93	FY-94
DOLLAR (000)	160				
FTE'S:	2.95				

RELATED PROJECTS: A-7, D-20, D-AA INTERFACE OFFICES: AGC, AFS, AMS, ALG, APA, AIR-100, ACE, ASW, ANM, AYE

REMARKS: PICS #220-0163: This project was formally known as NAHAP: Contractor support monies will be requested: Program adjustments beyond FY-90 will be accomplished through Project D-AA. FY-90 resource requirements per directorate are estimated as follows:

AYE	.5 FTE/$12k	ACE	.8 FTE/$39K
ASW	.3 FTE/$9K	ANM	.5 FTE/$10k

TITLE: Advisory Circular/Directive: The Aircraft Certification Audit Program (ACAP)

RESPONSIBLE OFFICE: AIR-200 COAL: 4

OUTCOME: (Product)

Current and adequate directive/advisory circular available to the public and FAA personnel.

REASON: (Why)

The FAA is revising its audit program and auditor qualifications to coincide with internationally accepted audit standards. Additionally, a new division is being created to trend audit results and act as team leaders on audits of select production approval holders which have a high impact on safety or are multinational in structure.

DESCRIPTION: (Why)
Develop a directive/advisory circular that describes a centrally managed audit program of aircraft, engine, propeller and parts manufacturers; and audits of facilities holding delegation option authority, a delegated alteration station and Special FAR 36 repair authorization. Include a description of monitoring and analyzing all production approval holder audits and selecting those who have a high immpact on safety.

APPROACH (How)

The audit program will be structured, systematic and indepth. It will be conducted by teams of FAA manufacturing inspectors, FAA engineers and, as appropriate, contracted support. A prototype will be developed and tested. Hold or participate in international aviation industry meetings to explain program.

MILESTONES: (When)

Initial training and implement prototype	1st Quarter FY-90
Identify criteria to select "Top 20"	2nd Quarter FY-90
Finalize program, issue guidance and identify training requirements	3rd Quarter FY-90

RESOURCES:	FY-90	FY91	FY-92	FY-93	FY-94
DOLLAR (000)	160				
FTE'S:	2.95				

RELATED PROJECTS: A-7, D-20, D-AA INTERFACE OFFICES: AGC, AFS, AMS, ALG, APA, AIR-100, ACE, ASW, ANM, AYE

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ASW	.3 FTE/$9K	ANM	.5 FTE/$10k

TITLE: AC: Order 8130.28, update and Convert to an AC

RESPONSIBLE OFFICE: AIR-200 COAL 4

OUTCOME: (Product)

Adequate, current guidance material available to public and FAA field personnel.

REASON: **(Why)**

To assure that the ACRP procedure handbooks are current and available for public information,

DESCRIPTION: **(What)**

Issue an AC.

APPROACH: **(How)**

This project will be accomplished by assigning individual section to AIR-230 staff and tasking and overall project manager . All proposed guidance material will be coordinated with FAA personnel. Opportunity for public comment will be provided by publication in the Federal Register

MILESTONES: (When)

Comments incorporated	1st Quarter FY-90
AGC concurrence	1st Quarter FY-90
Prepare FR notice	2nd Quarter FY-90
Public comments	2nd Quarter FY-90
Disposition of comments	3rd Quarter FY-90
Final AC	3rd Quarter FY-90
AGC Review	4th Quarter FY-90
Final approval (DMO)	4th Quarter FY-90
AMS Review	4th Quarter FY-90
Publish notice of availability	4th Quarter FY-90

RESOURCES:	FY-90	FY-91	FY-92	FY-93	FY-94
DOLLARS(000):					
FTE'S	1.03				

RELATED PROJECTS: NONE. INTERFACE OFFICES: AGC, AIR-100, AFS, AMS

REMARKS: SMART Project D-32

TITLE: AC: Order 8130.28, update and Convert to an AC

RESPONSIBLE OFFICE: AIR-200 GOAL 4

OUTCOME: (Product)

Adequate, current guidance material available to public and FAA field personnel.

REASON: (Why)

To assure that the ACRP procedure handbooks are current and available for public information,

DESCRIPTION: (What)

Issue an AC.

APPROACH: (How)

This project will be accomplished by assigning individual section to AIR-230 staff and tasking and overall project manager . All proposed guidance material will be coordinated with FAA personnel. Opportunity for public comment will be provided by publication in the Federal Register

MILESTONES: (When)

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AGC concurrence	1st Quarter FY-90
Prepare FR notice	2nd Quarter FY-90
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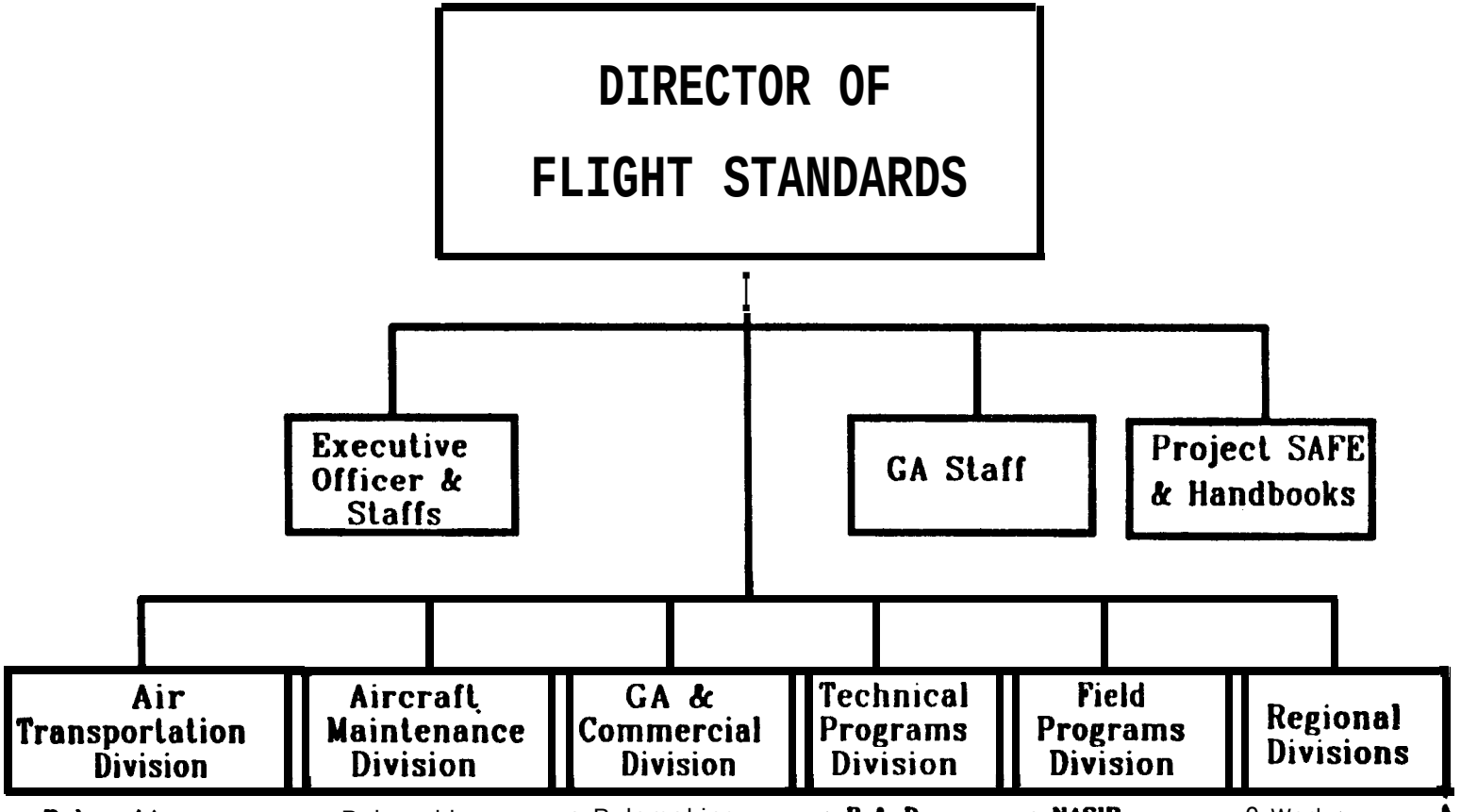
RESOURCES:	FY-90	FY-91	FY-92	FY-93	FY-94
DOLLARS(000):					
FTE'S	1.03				

RELATED PROJECTS: NONE. INTERFACE OFFICES: AGC, AIR-100, AFS, AMS

REMARKS: SMART Project D-32

FLIGHT STANDARDS SERVICE



FLIGHT STANDARDS SERVICE

Introduction

During the past decade, fundamental changes have taken place in U.S. civil aviation operations. These changes are the direct result of the deregulation of the airline industry in 1978.

The industry has experienced three distinct phases of change: Expansion (30 large air carriers in 1978 to 105 in 1985), consolidation (11 mergers and 16 buyouts of smaller regional/commuters in 1986-1998) to 61 active carriers at the end of 1988, and concentration (4 largest carriers accounted for 60.4 percent of traffic in 1988--up from 52.5 percent in 1978). 1/ Regional commuter operations have experienced similar changes with the number of carriers increasing from 210 in 1978 to 250 in 1981, then declining to 170 in 1988. Airlines have also changed the structure of routing systems from predominantly linear operations to a system of hub and spoke.

Change has been evident in aviation during the past decade. Because deregulation made it easier for a carrier to enter more markets and fly any route it chooses, the business of regulating a dynamic environment has become a significant effort. The challenge for the Federal Aviation Administration Flight Standards Service has been to not only meet the demands of a more competitive airline industry but to keep ahead of it as well. We have planned for this accomplishment by establishing a cohesive Flight Standards organization capable of dealing with current and future requirements. Therefore, our future direction in program planning is to continue to meet the challenge of change.

As described in the pages that follow, our function is multifaceted but is implemented through a well planned and coordinated process. The result of that process allows for the focus of significant program areas to meet established program goals. Some of these areas of focus have been ongoing efforts, i.e., improved inspector work force with enhanced capabilities and an accelerated surveillance program guided by updated regulations. Additional emphasis will be placed on an expanded R&D coordinated program to measure operational impacts of new technology.

With our challenge identified, we will continue to strive for future program accomplishments.

1/ FAA Aviation Forecasts, March 1989, FAA-APO-89-1

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(9) Operating requirements and criteria for use of aircraft systems;

(10) Assuring that operational considerations are accounted for in the Operating Limitation and Information requirements, policies, and practices for the development of airplane and rotorcraft flight manuals.

(11) Recommending quantities, priorities, and place locations for approach and landing navigation aids and visual aids for the National Airspace System Plan.

Further, the Flight Standards Service is delegated the authority to develop, issue, amend and terminate rules and regulations promulgated under Titles III and VI of the FAA Act related to Federal Aviation Regulations within the purview of AFS, standard instrument approach procedures, minimum en route altitudes, flight procedures, operational weather minimums, and minimum equipment requirements. AFS also has the authority to grant or deny exemptions from and to take final action on any request or petition for reconsideration under such rules and regulations.

The functions of the Flight Standards Service are managed and executed through the Office of the Director, three policy divisions, one technical programs division and one national field programs division in Washington; nine regional divisions and 91 Flight Standards district/satellite offices (including general aviation and air carrier district offices) throughout the U.S. and its territories; and the Flight Standards Staff of the FAA Europe, Africa, and Middle East Office (AEU) located in Brussels, Belgium with a district office in Frankfurt, Germany. The Flight Standards programs are carried out by a work force of approximately 3000+ aviation safety inspectors and support personnel, nationwide.

As depicted on page V-2, the Office of the Director consists of three subordinate organizations in addition to the Director's and Deputy Director's personal staff. These three elements--the Executive Staff, the General Aviation Staff, and the Project SAFE Staff--serve as an extension of the Director and assist the Director in carrying out management functions toward accomplishment of the Flight Standards Service mission. The Executive Staff provides staff support to the Director for Service-wide management activities. As such, the Executive Staff has the lead for assuring that AFS resource requirements (people, automation, facilities, etc.) are adequately identified, planned, and budgeted for through AFS national systems, and distributed in such a fashion so as to adequately meet certification, surveillance, and enforcement workload demands generated by the industry nationwide. It is also responsible for administrative support services for Washington Headquarters managers and employees. The two remaining staffs provide national focus for key program efforts which merit senior level attention. The Project SAFE Staff provides oversight to the conceptualization and development of innovative programmatic and human resource management initiatives/products geared to improve or enhance operational effectiveness and efficiency. The General Aviation Staff is the focal point for the aviation community, at the national level, on matters pertaining to general aviation affairs, accident prevention, airshows, and sport aviation.

The three Flight Standards policy divisions - the Air Transportation Division, the Aircraft Maintenance Division, and the General Aviation and Commercial Division are responsible for the development and interpretation of regulations, policy, and guidance for certification, inspection, and surveillance of air carriers, commercial operators, and air agencies (including repair stations) in their respective areas of expertise or organizational alignment. Further, these divisions are responsible for pilot, flight instructor, mechanic, repairman and parachute rigger certification and determine standards for flight crewmember qualifications and proficiency.

The Technical Program Division is the AFS organization which provides national focus for research and development programs, all weather operations, aviation weather programs, and human factors programs. In addition, this organization provides national leadership in the operational aspects of enroute and instrument approach procedures. The Field Programs Division serves as the oversight and coordination point for implementation of operational programs, nationwide. This organization develops and publishes national program guidelines for the annual work program in the field and executes the National Aviation Safety Inspection Program. This division also provides national focus for certificate management, particularly for the top, billion dollar certificated air carriers. Further, the Field Programs Division is the focal point for matters relating to inspector training, including the annual call for training requirements and provides national oversight for the maintenance of human resource management systems affecting inspector job performance (e.g., currency of inspector job task analysis, position descriptions, performance standards, etc.).

The Regional Flight Standards Divisions and the Flight Standards Staff of the AEU Region are responsible for managing and executing the day-to-day operational programs of the Flight Standards Service through a system of field District Offices. The AFS Division Managers within the Regions serve as the focal point for all Flight Standards activities within their respective regions, serving as consultants to and on behalf of the Regional Administrators and the Director of the Flight Standards Service. The Regional AFS division staffs also provide management support to the District Offices for the execution of line certification, surveillance and enforcement functions. The AEU Flight Standards Staff is the international focal point for aviation safety activities overseas (Europe). Each domestic Regional Flight Standards Division has international responsibilities for specifc geographical areas outside the United States (i.e., AWP for Asia and the Pacific territories/countries, ASW for Mexico/Central America, ASO for Caribbean territories/countries and South -America, etc.). As such, these organizations also provide consultative and liaison services to other nations/countries on flight operations safety, operator certification, surveillance, inspection, and enforcement.

RESOURCES: It is expected that the operating budget for the Flight Standards Service will increase from just over $200,000,000 to almost $300,000,000 between 1990 and 1994 to cover increased demands generated by expanded growth or changes in the aviation industry and the operating environment, both domestically and internationally. The estimated operating budgets for FY-90 through FY-94 are as follow:

FISCAL YEAR	BUDGETED FUNDS (000's)	AUTHORIZED POSITIONS	FULL-TIME EQUIVALENT WORK YEARS
FY-90	$211,607.0	3889	3345
FY-91	$257,210.0	4280	3920
FY-92	$278,680.0	4400*	4156
FY-93	$286,637.0	4400*	4156
FY-94	$290,247.0	4400*	4156

*Subject to validation by staffing standards

Major increases in the operating budget will cover PC&B and travel costs for additional aviation safety inspectors and support personnel needed to perform critical aviation certification, surveillance, and enforcement related functions; to cover continued costs for implementation of Project SAFE; to provide for continued field automation as an enhancement to productivity and efficiency; to cover costs related to new program requirements generated by new technology and international expansion; and to cover annual costs associated with national operations, including the National Aviation Safety Inspection Program.

The Flight Standards Service also has long range, comprehensive fiscal requirements to cover navigational systems and equipment upgrades and installations. The Facilities & Equipment budget projections (in millions) for FY-90 through FY-94 include:

F&E PROJECT	FY-90 (M)	FY-91 (M)	FY-92 (M)	FY-93 (M)	FY-94 (M)
VOR**	27.0	27.0	14.0	14.0	12.0
NDB**	1.9	3.5	2.0	2.0	2.0
ILS	2.0	10.0	10.0	10.0	10.0
RVR	11.9	---	15.0	15.0	15.0
VISNAV**	23.2	23.2	15.0	20.0	20.0
ALSIP	20.0	19.8	20.0	20.0	20.0
LORAN-C	.2	---	---	---	---
AWOS	11.5	61.2	55.0	---	---
TOTALS	97.7	144.7	131.0	81.0	79.0

**Contains AFS/AAF/AAT sponsored items in lump sum.
NOTE: Data provided taken from AND-l F&E financial baseline memo dated 10/88.

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Flight Standards Service
Significant Projects
Index

Flight Standards Service
Significant Projects
Index

Title: Project SAFE Program

Responsible Office: Project SAFE Staff, AFS-6

Goal: Adequate operator certification and in-proved compliance posture.

Purpose: To improve the inspection program within the Flight Standards Service and to create a work environment which provides for standardized selection, training, operating, and evaluation processes in all areas impacting the aviation safety inspector work force.

Description: Originally a baseline job task analysis, the program has evolved into a comprehensive examination of the Flight Standards System - its inspectors, work functions, and overall management of the field inspector work force.

Approach: The Project is designed to be introspective and to provide a foundation for control of FAA regulations, directives, work programs, program management information systems, industry safety findings, evaluation programs, budget resources, and a variety of human resource management issues.

Outcome:

- Standardized selection, training, operating, and evaluation processes.
- Standardized position descriptions developed from a base of sound job task analyses.
- Timely, accurate, clear, and concise Flight Standards' policy and in readily accessible handbooks.
- Training that is available through a multiplicity of sources (FAA Academy, Universities, CBI, Contractors, etc.).

Milestones:

- Update field and regional office staffing standards FY-90
- Job task analysis for Regional & Headquarters Flight Standards Service Positions FY-91
- Standardized Classification system for all field ASI positions FY-92
- Standardized position descriptions, job task listings; and performance standards for all Flight Standards Service positions FY-93
- Updated, revised, and newly developed ASI training modules FY-94

Related Projects: None

Schedule for Handbook Completion:

Final date for submission to GPO -

Air Carrier - March 1990
General Aviation - November 1989
Maintenance - July 1989
Accident Prevention - June 1989

Interface Offices: AHR; AMS; Allen Corporation; American Management Systems, Inc.; AAC; and APR

Remarks: The program is managed and operated on a matrix management concept involving a total of 75 plus employees assigned throughout the Flight Standards, Human Resource Management, and Management Systems organizations. New project initiatives are added to the program throughout a fiscal year as new organizational needs are identified and as changes occur within the aviation industry.

Related Projects: None

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Title: Airspace Compliance and Education Program (ACEP)

Responsible Office: General Aviation Staff, AFS-20 (Accident Prevention Program)

Goal: Comprehensive promotion and assessment of aviation safety in the operating environment.

Purpose: To reduce the number of events involving noncompliance of airspace regulations by requiring for first-time offenders' participation in remedial and education methods, i.e., counsels, flight assist, and seminars.

Description: The program would be implemented through the Accident Prevention Program in cooperation with Air Traffic personnel. Program guidelines and philosophy would require the Administrators compliance and enforcement policy to be revised with emphasis on educational efforts.

Awnroach: Establishment of the program would involve coordinated efforts from appropriate members of Flight Standards, Air Traffic, and Office of the Chief Counsel.

Outcome: The course should be part of the "Back to Basics" campaign and operational by FY-91. All accident prevention specialists should be actively promoting the program by FY-92.

Milestones:

Work to adopt concept	FY-90
Implementation of program	FY-91
Program operational nationwide	FY-92
Revisions and adjustments as needed	FY-93-94

Related Projects: On-going APS activities--would revitalize the flight-assist program and support our educational efforts. Advisory Circulars, hand-outs and new audio-visual programs.

Interface Office: Air Traffic and Legal

Remarks: Discontinue the automatic "60-day suspension" edict for airspace non-compliance.

Title: Air Carrier Designated Examiner Management Program

Responsible Office: Air Transportation Division, AFS-200

Goal: Adequate operator certification and improved compliance posture.

Purpose: To provide the Flight Standards Service with a means to ensure job function standardization for airman examiners involved in Part 121 and Part 135 operations.

Description: Systematic approaches will be developed to track and identify examiner performance and to incorporate new methods, techniques, and developments in technology in examiner training.

Approach: Means will include: improved directives, updated surveillance techniques and requirements, and automated information retrieval and processing systems.

Outcome: A population of designated Air Carrier Examiners whose performance is tracked and monitored to provide the highest possible degree of standardization and safety.

Milestones:

Update inspector handbooks	1 QTR FY-90
Revise Air Carrier Examiner Handbook	2 QTR FY-90
One time reissuance of examiner designations	3-4 QTR FY-90
Special Emphasis NASSIP Inspection of Designees	1-4 QTR FY-91
Development of Automated Information Programs	1-3 QTR FY-91
Test Automation Programs	4 QTR FY-91
Implementation	1-2 QTR FY-92

RelatedProjects: AFS-800 Examiner Performance Management Program

Interface Offices: APR, AFS-800, AVN

Remarks: Coordination with industry groups required.

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Development of Automated Information Programs	1-3 QTR FY-91
Test Automation Programs	4 QTR FY-91
Implementation	1-2 QTR FY-92

RelatedProjects: AFS-800 Examiner Performance Management Program

Interface Offices: APR, AFS-800, AVN

Remarks: Coordination with industry groups required.

Title: Flight Standards Approach to the Aging Aircraft Problem

Responsible Office: Aircraft Maintenance Division, AFS-300

Goal: Comprehensive promotion and assessment of aviation safety in the operating environment

Purpose: To develop methods, policy or regulatory changes to improve the maintenance programs for Part 121 aging aircraft of U.S. operators.

Description: Highly qualified airworthiness specialists, district office inspector, and certification engineers will form teams to inspect all transport category Part 121 aircraft identified as aging fleet.

Approach: Teams will visit airlines to evaluate the effectiveness of their corrosion control programs, structural inspection techniques, and airworthiness directive accomplishments. The teams will visit operators during their structural inspections to perform "over-the-shoulder" inspections. Airworthiness teams will also review Boeing, Douglas, Lockheed corrosion control programs; select the best elements of each; and develop a complete corrosion control plan.

Outcome: New FAA Policy

Milestones:

Inspections completed by	February 1990
Policy change implementation by	July 1990
Evaluation of new policy by	December 1990
Continuous coordination with industry to alleviate duplication of effort	

The second phase of the visit involves hands on, over the shoulder activities. The team goas to the aircraft, while it is completely depaneled, dismantled and opened up. They observe the inspection in progress. They compare what is actually being done, in relation to the work package program requirements. They observe the aircraft condition in the area of corrosion damage, cracks, and quality of repairs.

Outcome: These visits will produce observed data which will indicate the condition of our aging fleet and the quality of the operator's maintenance/ inspection program. This data will allow the formation of policy which will in-prove methods and techniques.

Milestones:

	121 Program	Commuter Category
1. Inspections completed by	July 1990	TBD
2. Policy change implementaiton by	December 1990	TBD
3. Evaluation of new policy	Continuous	TBD
4. Continuous coordination with industry to alleviate duplication of effort		

Related Projects: AIR-100, ANM-100, Aging fleet project. Industry aging fleet project.

Interface Offices: AIR, AIR-100, ANM-100, ANM-270, ACE-100, ACE-200, ACE-270.

Milestones:

	121 Program	Commuter Category
1. Inspections completed by	July 1990	TBD
2. Policy change implementaiton by	December 1990	TBD
3. Evaluation of new policy	Continuous	TBD
4. Continuous coordination with industry to alleviate duplication of effort		

Related Projects: AIR-100, ANM-100, Aging fleet project. Industry aging fleet project.

Interface Offices: AIR, AIR-100, ANM-100, ANM-270, ACE-100, ACE-200, ACE-270.

Title: Revision of Certified Aviation Maintenance Technician School Regulations

Responsible Office: Aircraft Maintenance Division, AFS-300

Goal. Promotion of adequate airmen training and certification.

Purpose: To develop policy and regulation changes to upgrade aviation maintenance technician education.

Description: Aviation maintenance technician schools are FAA certified for the training of airframe and powerplan technicians. The introduction of new aerospace technologies, the impact of the aging fleet, and the diversity of required new skills have all strongly indicated the need to upgrade the training requirements for the airframe and powerplant technician.

Approach: Mew regulations and policy will be developed to upgrade school requirements for operating rules, curriculum, laboratory and shop equipment, and instructional aids. This will involve liaison with state and local education offices, the airline industry, and aviation education and maintenance associations.

Outcome: New FAA policy and regulations for aviation maintenance technician schools.

Milestones:

Develop background	2nd Qtr FY-88
Staff study to develop data collection program	3rd Qtr FY-88
Implment data collection	4th Qtr FY-88
Develop seminar program	4th Qtr FY-89
Implement seminars to validate data collection	4th Qtr FY-88
Complete analysis of data	1st Qtr FY-89
Initiate revision of regulation	3rd Qtr FY-89
Publish NPRM	3rd Qtr FY-90

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Implement seminars to validate data collection	4th Qtr FY-88
Complete analysis of data	1st Qtr FY-89
Initiate revision of regulation	3rd Qtr FY-89
Publish NPRM	3rd Qtr FY-90

Title: Civil Tiltrotor

Responsible Office: Air Transportation Branch, AFS-330

Goal. Comprehensive promotion and assessment of aviation safety in the operating environment.

Purpose: To develop maintenance procedures, inspection requirements, mechanic certification, and training and regulatory changes for the Civil Tiltrotor Project (CTR).

Description: Procedures and policy with associated necessary regulatory changes will be developed to identify, and track appropriate processes to integrate the Civil Tiltrotor into current air carriers operations. This process will entail inhouse and contract support to complete.

Approach: A coordinated effort within Flight Standards will be made to develop the required FAA policy and procedures.

Outcome: Published changes in FAA orders, handbooks, policies, regulations and appropriate MRB Document.

Milestones:

Planning and phase for MRB process	1st Qtr FY-90
Start MSG 3 analysis and MRB process	2nd Qtr FY-90
Completion of MRB Process and Certification	4th Qtr FY-92

Related Projects: AFS-800, CTR Airman Certification Program; AFS-210, CTR Training Program; CTR Civilian Certification, ASW-100.

Interface Offices; AFS-800, AFS-210, AVN, AFS-400, AFS-250, AFS-340, ASW-100, ASW-270.

Title: Foreign Repair Station Certification and Surveillance Plan

Responsible Office: Aircraft Maintenance Division, AFS-300

Goal: Adequate operator certification and improved compliance posture.

Purpose: To provide the Flight Standards Service with effective organization and resources for the certification and surveillance of foreign repair stations.

Description: The plan is to assess the total foreign repair station environment and provide for optimal utilization of FAA and outside resources for the certification and surveillance of foreign repair stations and U.S. entities who use those facilities. It will include a continuing assessment on FAA resources and the utilization of foreign facilities certificated to maintain or alter products for use on U.S.-registered aircraft. The plan will provide for a system of continuing seminars to enhance communication of FAA requirements in the foreign environment and promote standardization within FAA and industry of the FAR maintenance performance standards. These programs will also be adaptable to domestic repair stations.

Approach: This plan will be initiated on a short term that will provide for resources and certification priorities for a l-year period. The total foreign environment will be assessed and will produce an organizational plan that will have optimum location and utilization of resources and standardized application of the FAR. This assessment will consider the impact of international aircraft maintenance and operational activities. This will involve liaison with other federal agencies; i.e., State Department, Trade, and other elements. This will include regions and other FAA offices involved in international aviation affairs. This effort will be accomplished from a focal point within AFS to allow a central point of communication with other elements involved in the development of this plan.

Outcome: A Flight standards program that will provide for timely implementation of a new regulation and an organizational plan to properly locate and allocate resources for foreign aircraft maintenance and operational activities.

Milestones:

Implement short term	2nd Qtr, FY-89
Implement seminar program	2nd Qtr, FY-89
Begin analysis of resource and organization	3rd Qtr, FY-89
Complete analysis	4th Qtr, FY-89
Obtain approval and implement plan	1st Qtr, FY-90

Resources:	FY-89	FY-90
Dollars (000)	160	To be determined
FTE	14	To be determined

Interfacing Offices: AIR, AIA, AGL, AFS, AVR, Regions

Title: Foreign Repair Station Certification and Surveillance Plan

Responsible Office: Aircraft Maintenance Division, AFS-300

Goal: Adequate operator certification and improved compliance posture.

Purpose: To provide the Flight Standards Service with effective organization and resources for the certification and surveillance of foreign repair stations.

Description: The plan is to assess the total foreign repair station environment and provide for optimal utilization of FAA and outside resources for the certification and surveillance of foreign repair stations and U.S. entities who use those facilities. It will include a continuing assessment on FAA resources and the utilization of foreign facilities certificated to maintain or alter products for use on U.S.-registered aircraft. The plan will provide for a system of continuing seminars to enhance communication of FAA requirements in the foreign environment and promote standardization within FAA and industry of the FAR maintenance performance standards. These programs will also be adaptable to domestic repair stations.

Approach: This plan will be initiated on a short term that will provide for resources and certification priorities for a l-year period. The total foreign environment will be assessed and will produce an organizational plan that will have optimum location and utilization of resources and standardized application of the FAR. This assessment will consider the impact of international aircraft maintenance and operational activities. This will involve liaison with other federal agencies; i.e., State Department, Trade, and other elements. This will include regions and other FAA offices involved in international aviation affairs. This effort will be accomplished from a focal point within AFS to allow a central point of communication with other elements involved in the development of this plan.

Outcome: A Flight standards program that will provide for timely implementation of a new regulation and an organizational plan to properly locate and allocate resources for foreign aircraft maintenance and operational activities.

Milestones:

Implement short term	2nd Qtr, FY-89
Implement seminar program	2nd Qtr, FY-89
Begin analysis of resource and organization	3rd Qtr, FY-89
Complete analysis	4th Qtr, FY-89
Obtain approval and implement plan	1st Qtr, FY-90

Resources:	FY-89	FY-90
Dollars (000)	160	To be determined
FTE	14	To be determined

Interfacing Offices: AIR, AIA, AGL, AFS, AVR, Regions

Title: MIS TERPS Criteria

Responsible Office: Technical Programs Division, AFS-400

Goal: Continued support for National Airspace System capacity requirements

Purpose: Minimize difficulties of transitioning to new precision criteria.

Description: Evaluate a representative number of sites in each region.

Approach: Train field office, regional staff, and, when and if available, contractor staff on new criteria. Use team effort to apply criteria to the described sites. Resolve criteria difficulty and safety issues with Technical Programs Division and AVN staffs.

Milestones: Training module in place June 1989; teams trained September 1989, OT&E accomplished March 1990.

Interface Offices: AVN-200, AVN-500, AVN-10

Remarks: Resources 1990 - 100K

Title: MIS TERPS Criteria

Responsible Office: Technical Programs Division, AFS-400

Goal: Continued support for National Airspace System capacity requirements

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Milestones: Training module in place June 1989; teams trained September 1989, OT&E accomplished March 1990.

Interface Offices: AVN-200, AVN-500, AVN-10

Remarks: Resources 1990 - 100K

Title: LORAN-C Support

Responsible Office: All Weather Operations Branch, AFS-410

Goal: Continued support for National Airspace System capacity requirements

Purpose: To provide the Flight Standards Service with an effective resource to implement Loran-C into the NAS.

Description: This project addresses three areas of general Loran operations support for the Office of Flight Standards: (1) provisions of technical documentation and visual aids for briefings and presentations on operational issues, (2) analyses and studies supporting procedures and policy, and (3) graphical and statistical determination of Loran signal coverage.

Approach: Project area No. 1 will be established to provide AFS with the capability to develop operational and technical documentation to FAA field organizations. The gamut of documentation extends from how-to-do-it manuals to multi-level video presentations on the status of the FAA Loran project. Project area No. 1 will also provide AFS with the resources to respond to requirements for developing educational material for the safe and efficient use of Loran. The major items in project areas No. 2 is to develop software and acquire computer routines to analyze and study Loran signal and site geometry approval criteria. Project area No. 3 will provide graphical output from data 'base information describing Loran signal coverage and signal strength contours that answer the question "what if a transmitter fails". This effort will be accomplished with a multi-year project plan agreement (PPA) with the Transportation Systems Center.

Outcome: Educational material, automated routines to analyze signal and site geometry characteristics, and an Advisory Circular (AC) describing Loran coverage over the North Atlantic.

Milestones:

Develop a PPA	1st Qtr FY-89
Complete requirements document for Advisory Circular	2nd Qtr FY-89
Complete requirements document for analysis system	2nd Qtr FY-89
Define documentation education requirements	Continuing Effort
Publish AC in federal Register for comment	FY-90
Develop signal site analyses software	FY-90
Implement signal site analyses software	FY-91
Documentation and signal site analyses support	FY-91
Documentation and signal site analyses support	FY-92
Documentation and signal site analyses support	FY-93

Resources:

	FY-89	FY-90	FY-91	FY-92	FY-93
Dollars (000):	150	150	100	75	75

Title: Global Positioning system (GPS) Support

ResponsibleOffice: All Weather Operations Branch, AFS-410

Goal: Continued support for National Airspace System capacity requirements

Purpose: To provide the Flight Standards Service with an effective resource to implement GPS into the NAS.

Description: When GPS avionics became available in quantity in the 1990's all FAA projects needed to make the system a safe and useful civil navigation aid in the NAS. This project addresses the operational and technical issues associated with introducing a new navigation system into the NAS and establishes the required support to assure timely response to those issues.

Approach: AFS-400 will take the lead in establishing operational and technical projects required for the acceptance of a new navigational aid into the NAS. Most apparent is the assurance that GPS can meet established navigation requirements including accuracy, integrity, availability, and reliability. Additionally, criteria for avionics approval, procedures development, flight inspection, issuance of NOTAMs and development of technical standard orders must be established. A demonstration project to gain operational experience will be accomplished in-house with contractor support.

Outcome: Develop criteria for the routine approval of GPS operations in the NAS.

Milestones:

Develop project plan	FY-89
Establish contract requirements	FY-89
Establish demonstration project plan	FY-90
Establish demonstration project criteria	FY-90
Complete demonstration project	FY-91
Develop routine approval criteria	FY-92
Issue all AC's, Orders, and directives	FY-93

Resources:

	FY-89	FY-90	FY-91	FY-92	FY-93
Dollars(000):	0	230	300	150	150

Interface Offices: AVN, APS, AIR, AAT

Title: MLS Curved Approach Wide Body Simulation Support

Responsible Office: All Weather Operations Branch, AFS-410

Goal: Continued support for National Airspace System capacity requirements

Purpose: To demonstrate the suitability of flying complex, curved MLS approach procedures with wide body aircraft in manual and automatic flight modes.

Description: In the 1987 budget, $3.35 million was appropriated for a MLS curved approach wide body demonstration. The Air Transport Association (ATA) was responsible for this line item in the budget. ATA has continually expressed a concern about the ability of a wide body aircraft to fly curved approaches. The amount included in the 1987 budget for this task is insufficient, and the MLS Program Office (AND-30) has recently entered into an agreement with ATA to demonstrate the task in a wide body simulator in lieu of an aircraft in an effort to stay within the budget.

Approach: The task is planned in two phases. The first phase will be accomplished at the training facility of a major airline which regularly operates wide body aircraft. During recurrent training in wide body simulators, line pilots will fly additional approaches designed to emulate MLS curved and segmented approach procedures. These procedures will not totally replicate MLS complex procedures because the aircraft control laws were originally designed for planar approaches. However, they should be adequate to initially evaluate pilot performance, acceptability to the pilot, and aircraft capability. Using data collected in the first phase, the second phase will involve development of MLS RNAV capability in the flight management system (FMS) and new control laws in the flight control system (FCS) of a new wide body aircraft design by an airframe manufacturer and its avionics suppliers. Following the development effort, pilots provided through FAA, NASA, ATA, APA, and ALPA, will fly a medley of complex approach and departure procedures in the airframe manufacturer's simulator which will be representative of the new aircraft design with the upgraded FMS and FCS. The data collected during this simulation will be analyzed by the FAA, NASA, ATA, APA, and ALPA to determine the acceptability of the MLS complex procedures flown in a simulator representative of the procedures to be flown in a future certified aircraft.

Outcome: The results of the two phase program should satisfy the concerns of ATA regarding the capability of flying MLS complex procedures in wide body aircraft, and it should also clear the way for ultimate wide scale implementation of MLS RNAV in air transport aircraft.

Milestones:

Development of Program Plan	2nd Qtr FY-89
First Phase - Simulator Tests	FY-90
FMS/FCS Development	FY-90, FY-91
Second Phase - Simulator Tests	FY-91

Title: MLS Curved Approach Wide Body Simulation Support

Responsible Office: All Weather Operations Branch, AFS-410

Goal: Continued support for National Airspace System capacity requirements

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Milestones:

Development of Program Plan	2nd Qtr FY-89
First Phase - Simulator Tests	FY-90
FMS/FCS Development	FY-90, FY-91
Second Phase - Simulator Tests	FY-91

Title: MLS Minima Reduction Support

Responsible Office: All Weather Operations Branch, AFS-410

Goal. Continued support for National Airspace System capacity requirements.

Purpose: To study the concept of providing lower landing minima for operators equipped with MLS, precision DME, and computed altitude (based on MLS evaluation angle and precision DME data) avionics when the landing runway environment is not Category 2.

Description: It has been predicted that the increased positional accuracies of MLS and precision DME will enable aircraft to be consistently delivered within a defined volume on the approach path, where a pilot can safely maneuver the aircraft to a landing or execute a safe missed approach with minima as low as 150Ft/1600RVR using a standard MALS-R approach light system.

Approach: Pilot performance in flying manual, flight director assisted approaches, with reduced visibilities (below 2400RVR) will be evaluated in an appropriately equipped simulator, and then validated in an aircraft similar to the simulator, to determine whether reduced minima is possible in Category 1 runway environment.

Outcome: Approval of reduced minima for operators with appropriately equipped aircraft and trained crews.

Milestones:

Development of Program Plan (ACD-330, AFS-410)	2nd Qtr FY-89
Simulator Tests	4th Qtr FY-89
Validation Flight Tests	2nd Qtr FY-90

Interface Offices: AFS-420, AVN-210, AND-30, ACD-330

Title: MLS Minima Reduction Support

Responsible Office: All Weather Operations Branch, AFS-410

Goal. Continued support for National Airspace System capacity requirements.

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Outcome: Approval of reduced minima for operators with appropriately equipped aircraft and trained crews.

Milestones:

Development of Program Plan (ACD-330, AFS-410)	2nd Qtr FY-89
Simulator Tests	4th Qtr FY-89
Validation Flight Tests	2nd Qtr FY-90

Interface Offices: AFS-420, AVN-210, AND-30, ACD-330

Title: Wake Vortex Research

Responsible Office: Special Program Branch, AFS-430

Goal: Comprehensive promotion and assessment of aviation safety in the operating environment.

Purpose: To evaluate the safety levels of current weight categories, wake vortex separations, and terminal area traffic procedures.

Approach: Real-time measurements will be made of the vortex from fields generated by certain transport aircraft; e.g., B747-400, B767, B757, A320, MD-11, B737-400.

Outcome Revised separation standards and weight categories (if required). Long-term design and certification procedures to established aircraft vortex category during testing in initial production models.

Milestones: AFS milestones would be to closely monitor and participate in the wake vortex research program planning and execution by the OPI for vortex research.

Resource:

FY-90	100K
FY-91	100K
FY-92	100K
FY-93	100K
FY-94	100K

Related Projects: Capacity projects
Safety programs (wake vortex)

Interface Offices: ACT-300, ATO-300, ATR-100, AIR-100

Remarks: Direct AFS funding requirements would be minimal.

Title: Wake Vortex Research

Responsible Office: Special Program Branch, AFS-430

Goal: Comprehensive promotion and assessment of aviation safety in the operating environment.

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Resource:

FY-90	100K
FY-91	100K
FY-92	100K
FY-93	100K
FY-94	100K

Related Projects: Capacity projects
Safety programs (wake vortex)

Interface Offices: ACT-300, ATO-300, ATR-100, AIR-100

Remarks: Direct AFS funding requirements would be minimal.

Title: Airport Capacity Task Forces/Airport Capacity Development

Responsible Office: Special Programs Branch, AFS-430

Goal: Continued support for National Airspace System capacity requirements

Purpose: Provide continuing support in identifying potential capacity enhancements, their benefits, and reporting on the status of new airport capacity enhancement projects.

Description: Recognizing the importance of the need to enhance the capacity of existing airports, the FAA, as part of the National Airspace Plan, has initiated a series of federally-sponsored local capacity task force committees at key airports in the country. These individual task force committees are composed of representatives of airports, airlines, and the Air Transportation Association, and other users in addition to FAA airports, air traffic, flight standards, and airway facilities staff from local, district, regional, and headquarters offices.

The task forces limit their considerations and analyses to aircraft activity within the immediate terminal airspace and on the airfield to the aircraft gate areas. It is realized that the airfield is only one of the three components of airport capacity; terminal and landslide are beyond the scope of this effort. These other two components, along with complex overall terminal and en route airspace and environmental considerations, need to be addressed by further airport planning studies. Future planning can build on findings, options and insights resulting from these task force efforts.

Approach: Identify causes of delay associated with terminal airspace airfield, and apron/gate area operations.

1. Assess current airport capacity and establish causes of delay associated with airspace, airfield and apron area operations.

2. Evaluate capacity and delay reduction benefits of alternative airfield facilities, navigational, and visual and improvements, operational procedures and policy issues.

3. Examine the relationship between air traffic demand and delay that could be used as an aid in establishing acceptable air traffic movement levels.

Outcome: To develop a technical plan for each of our major airports that will be used by FAA to reduce delay and increase capacity. The plan will include: impact of near-term and long-term improvements on delay reduction, proposed airfield improvements, F&E improvements, operational improvements, and user improvements.

Title: Airport Capacity Task Forces/Airport Capacity Development

Responsible Office: Special Programs Branch, AFS-430

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Purpose: Provide continuing support in identifying potential capacity enhancements, their benefits, and reporting on the status of new airport capacity enhancement projects.

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Outcome: To develop a technical plan for each of our major airports that will be used by FAA to reduce delay and increase capacity. The plan will include: impact of near-term and long-term improvements on delay reduction, proposed airfield improvements, F&E improvements, operational improvements, and user improvements.

Title: Development of Operational Procedures for the Use of Terminal Doppler Weather Radar (TDWR)

Responsible Office: Special Programs Branch, AFS-430

Goal: Continued support for National Airspace System capacity requirements

Purpose: To protect terminal area flight operations from severe weather phenomena; e.g., windshear, thunderstorms, etc.

Approach: Proposed operational procedures will be developed for utilizing TDWR. Detailed analysis will be performed considering impact on ATC operations and cockpit workload. Fast-time and full-scale simulations will be due to validate operational procedures.

Outcome: Error tolerant operational procedures which will result in enhanced safety in the terminal area due to the avoidance of severe weather.

Milestones:

Procedures Developed	3/90
Analysis Completed	6/90
ATR Simulation (Computer)	12/90
Real Time Simulation	6/91

Resource: Estimated funding over 2 years should not exceed $350,000.

FY-90	200K
FY-91	150K

Title: Human Factors Support

Responsible Office: Special Programs Branch, AFS-430

Goal: Aggressive human factors research and development.

Purpose: To provide regulation and operational procedures which consider human capabilities and limitations.

Description: The Transportation System Center has provided Flight Standards with continuing human factors support since 1980.

Approach: Flight Standards identifies the safety issues which need evaluation by human factors experts. These evaluations could be of equipment, procedures, or processes. TSC develops test matrices, collects and evaluates data, and provides test support.

Outcome: Regulations and operational procedures which are compatible with the human interfaces.

Milestones:

Identify Issues	4th Qtr FY-89
TSC Develop Work Program	1st Qtr FY-90

Resources:

FY-90	500K
FY-91	500K
FY-92	500K
FY-93	500K
FY-94	500K

RelatedProjects:

Cockpit Human Performance
Automation
Workload

Interface Offices: AIR, ADS, AFS-300

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Responsible Office: Special Programs Branch, AFS-430

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Milestones:

Identify Issues	4th Qtr FY-89
TSC Develop Work Program	1st Qtr FY-90

Resources:

FY-90	500K
FY-91	500K
FY-92	500K
FY-93	500K
FY-94	500K

RelatedProjects:

Cockpit Human Performance
Automation
Workload

Interface Offices: AIR, ADS, AFS-300

Title: Tiltrotor-Civil Application TERPS Criteria Development

Responsible Office: Special Programs Branch, AFS-430

Goal: Continued support for National Airspace System capacity requirements.

Purpose: Develop TERPS criteria to support tiltrotor instrument approach operations, departure, and missed approach procedures. Recognizing that the tiltrotor is significantly different than either a fixed-wing aircraft or a helicopter, TERPS criteria will need to be developed specifically for this aircraft.

Description: The FAA has recognized the potential of efficient vertical takeoff and landing capability completed with high forward flight cruise speed of the tiltrotor and is committed to introducing this aircraft into the national air transportation system (NAS).

Approach: Flight Standards will develop a program plan for the development of TERPS criteria for the tiltrotor. This program plan will have three phases:

Phase I - will establish the performance characteristics of the tiltrotor.

Phase II - flight test in the tiltrotor simulator to collect preliminary data for IFR Flight Test.

Phase III - IFR Flight Test data collection in IFR V-22 aircraft with subject pilots. Data reduction and draft TERPS criteria for incorporation into FAA Handbook.

Outcome: TERPS criteria for approach profiles of 4.5 to 7.5 glidescopes, airspace requirements for departures and missed approach procedures to be incorporated into FAA Handbook 8260.3B.

Milestones:

Phase I Tiltrotor performance requirements/FAA	FY-89
Phase II Simulator test preliminary data collection	FY-90
Phase III IFR V-22 flight test data collection effort	FY-91
Data reduction/draft TERPS criteria	FY-92
Implementation of tiltrotor TERPS criteria into FAA Handbook	FY-93

Resources: Civil tiltrotor program office has budget FY-89 $1 million for TERPS development. NASA will provide tiltrotor simulator for TERPS development.

Related Projects: Certification of a civil tiltrotor, development of vertiport design standards, and flight crew certification.

Title: Tiltrotor-Civil Application TERPS Criteria Development

Responsible Office: Special Programs Branch, AFS-430

Goal: Continued support for National Airspace System capacity requirements.

Purpose: Develop TERPS criteria to support tiltrotor instrument approach operations, departure, and missed approach procedures. Recognizing that the tiltrotor is significantly different than either a fixed-wing aircraft or a helicopter, TERPS criteria will need to be developed specifically for this aircraft.

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Milestones:

Phase I Tiltrotor performance requirements/FAA	FY-89
Phase II Simulator test preliminary data collection	FY-90
Phase III IFR V-22 flight test data collection effort	FY-91
Data reduction/draft TERPS criteria	FY-92
Implementation of tiltrotor TERPS criteria into FAA Handbook	FY-93

Resources: Civil tiltrotor program office has budget FY-89 $1 million for TERPS development. NASA will provide tiltrotor simulator for TERPS development.

Related Projects: Certification of a civil tiltrotor, development of vertiport design standards, and flight crew certification.

Title: Validation of Aviation Weather Forecasts Used in Extended Range Operations

Responsible Office: Special Programs Branch, AFS-430

Goal. Comprehensive promotion and assessment of aviation safety in the operating environment

Purpose: To develop criteria for evaluating the extended range operations plans submitted by certificate holders.

Approach: Tracking, analysis and statistical processes designed to evaluate the accuracy, reliability and "goodness" of aviation weather forecasts at selected worldwide airports through comparison with reported weather conditions.

Outcome: Criteria for evaluating extended range operations plans.

Milestones:

Project plan developed	12/89
Data collection started	3/90
Data collection terminated	12/92
Criteria developed	6/93

Resources: Estimated funding required: $200,000 over 4 years.

FY-90	50K
FY-91	50K
FY-92	50K
FY-93	50K

Title: Flight Standards Automation Systems (FSAS)

Responsible Office: Automation Branch, AFS-530

Goal: Effective and efficient Flight Standards resource management policies, systems, and procedures.

Purpose: To provide the Flight Standards Service with an effective information management and safety analysis tool.

Description: The FSAS will be an integrated and standardized data base residing on a central host computer, assessed by industry standard workstations via a high speed communications network. Source level data entry will be provided through computer workstations located in the field facilities. Each field office will have access to information necessary to perform its daily work activities and a communication capability to enable it to exchange information with the regional and national databases. Field offices will have as many terminals as there are field office staff. Analytical software will be available to perform a large variety of statistical analyses.

Approach: Integrated database programs will be developed for the central host computer and industry standard workstations which will provide the Flight Standards Service with the capability to identify potential safety issues, respond more efficiently to internal and external information requests, and provide timely and accurate information which is easily accessible by users. This will be accomplished with in-house and contract support.

Outcome: An integrated and comprehensive automated certification and safety information system.

Milestones:

Identification of requirements	FY-89
Programming for FSAS	FY-89-90
Acquisition of hardware	FY-89-94
Implement FSAS	FY-90-91
Implement additional enhancements	FY-91-94

Related Projects: MMELS, SEISS, AES, AFARS, RBRS, EIS, SDRS, AIDS

Inter Offices: APR, AVN, AAC, AIR

Remarks: Total system integration will require a single point access to all databases. This will necessitate the integration of the related projects or databases identified above. The scope of this integration has not been included in this project.

Title: Flight Standards Automation Systems (FSAS)

Responsible Office: Automation Branch, AFS-530

Goal: Effective and efficient Flight Standards resource management policies, systems, and procedures.

Purpose: To provide the Flight Standards Service with an effective information management and safety analysis tool.

Description: The FSAS will be an integrated and standardized data base residing on a central host computer, assessed by industry standard workstations via a high speed communications network. Source level data entry will be provided through computer workstations located in the field facilities. Each field office will have access to information necessary to perform its daily work activities and a communication capability to enable it to exchange information with the regional and national databases. Field offices will have as many terminals as there are field office staff. Analytical software will be available to perform a large variety of statistical analyses.

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Outcome: An integrated and comprehensive automated certification and safety information system.

Milestones:

Identification of requirements	FY-89
Programming for FSAS	FY-89-90
Acquisition of hardware	FY-89-94
Implement FSAS	FY-90-91
Implement additional enhancements	FY-91-94

Related Projects: MMELS, SEISS, AES, AFARS, RBRS, EIS, SDRS, AIDS

Inter Offices: APR, AVN, AAC, AIR

Remarks: Total system integration will require a single point access to all databases. This will necessitate the integration of the related projects or databases identified above. The scope of this integration has not been included in this project.

Title: Approval Procedures for Operations within the North Atlantic Minimum Navigation Performance Specification Airspace

Responsible Office: Operations Branch, AFS-820

Goal*. Adequate operator certification and improved compliance posture

Purpose: Reduce the number of MNPS airspace navigation errors.

Description: Require Specific training and approval procedures for US pilots to operate in MNPS airspace.

Approach: Initiate rulemaking action to be followed by advisory circular and handbook material.

Outcome: Reduction of overseas navigational error reports on US-registered aircraft.

Milestones:

Complete rulemaking action	FY-89
Complete AC	FY-89
Complete handbook guidance	FY-89

RelatedProjects: Rulemaking project - AFS-850

Interface Offices: AFS-850, AFS-220, ATO-200, APO-200, and AGC-200

Remarks: Rulemaking action dependent upon priority of other regulator projects.

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Outcome: Reduction of overseas navigational error reports on US-registered aircraft.

Milestones:

Complete rulemaking action	FY-89
Complete AC	FY-89
Complete handbook guidance	FY-89

RelatedProjects: Rulemaking project - AFS-850

Interface Offices: AFS-850, AFS-220, ATO-200, APO-200, and AGC-200

Remarks: Rulemaking action dependent upon priority of other regulator projects.

Title: Enforcement Policy Review

Responsible Office: Operations Branch, AFS-820

Goal: Adequate operator certification and improved compliance posture.

Purpose: Ensure a realistic, uniform enforcement policy implementation to promote compliance with operational FAR. Enable Flight Standards offices to apply equitable sanctions to FAR violations.

Approach: Review standing policies (i.e., mandatory TCA 60-day sanction) to determine if violations are addressed consistently, fairly, and in a manner that reasonably serves the purpose of deterring future violations.

Outcome: Enhance operator compliance with FAR.

Milestones:

0 Currently formulating action plan.

Related Projects: None

Interface Offices: AGC-200

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Outcome: Enhance operator compliance with FAR.

Milestones:

0 Currently formulating action plan.

Related Projects: None

Interface Offices: AGC-200

Regulatory Projects

The following regulatory activities are not representative of all Flight Standards regulatory initiatives. They are intended to represent some of the significant regulatory projects ongoing and planning requiring projected high staff resource requirements.

Subject:	Airman Training and Certification with Respect to Aircraft Simulation.
Purpose:	Increase use of simulation devices for airmen training and certification.
Outcome:	Revise Part 61/121/135/141/143. Revise Handbooks and Circulars.
Subject:	Parts 61, 141, 143 Regulatory Review, Phases II and III.
Purpose:	Phase II will incorporated results of JTA into pilot and instructor certification and training requirements. It will also require approved curriculums for all training and update the spectrum of pilot and instructor training and certification. Phase III is dependent on research currently being conducted by ADS-210 and will deal with pilot and instructor requirements in the year 2010 and beyond. JTA for Phase II will be completed March 31, 1989, and available for public comment at public hearings which will be held in summer 1989.
Outcome:	Revise and update regulations for pilot and instructor training and certification.
Subject:	Part 125 review.
Outcome:	Determine appropriate certification, deviation approval, and operating procedures for large aircraft in accordance with FAR Part 125. Minimize unnecessary coordination and delay within FAA and between FAA and the operator. Amend Part 125 to allow for delegation of authority below the Associate Administrator level for the issuance of Part 124 deviations.
Subject:	Require carriage of flotation gear in seaplanes.
Purpose:	Reduce deaths associated with survival from seaplane accidents.

Subject: Amend Section 91.20 to require training for operations in North Atlantic MNPS airspace.

Purpose: Reduce number of overseas navigational errors. Establish procedures to ensure that US - registered aircraft are properly equipped and that flight crews are properly training and authorized to operate in MNPS.

Subject: Aircraft Simulator Use in Airman Training and Certification.

Purpose: Codify existing exemptions which allow increased use of airplane simulators in Part 61. NPRM has completed initial team coordination and Principal's briefing; Rescheduled 4 times due to rapid changes in air carrier industry which affect commercial and ATP certificates and rating.

Outcome: NPRM in 1989; schedule dependent on Flight Standards coordination and availability of contract funding.

Subject: Aircraft Registration Applications

Purpose: Determine feasibility of authorizing owners/operators on international flights to utilize the second duplicate copy (pink) of the aircraft registration application as the registration certificate until the owner/operator receive the certificate of the aircraft registration or until FAA denies application. Initiated by Joseph T. Brennan, AAC-7, May 11, 1982. No incorporated in Part 91 because of comments received in NPRM No. 79-2C.

Outcome Step I authorized January 16, 1986. Pending decisionmaking.

Subject: Fairchild Aircraft Corporation petition to eliminate the need for an MEL.

Purpose: Petitioner requests amendment of Section 91.30 and 135.179 to allow FAA-approved flight manual to contain MEL references. Petitioner states that the wording of those sections fails to recognize the fact that the FAA has a means other than the MEL of allowing dispatch with inoperable instruments or equipment.

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Subject: Cessna Aircraft Company Petition for Rulemaking - Single Pilot Operations.

Purpose: Resolve engineering/operational issues related to crew complement. The petitioner seeks the promulgation of an amendment to Section 91.213 to allow airplanes type certificated for operation by a single pilot to be operated without a second in commend irrespective of whether the airplane is a "large aircraft" or a "small aircraft" as defined in Section 1.1. Significant resources are needed to determine criteria for crew complement. A number of factors are involved - size of aircraft, complexity of systems, workload, location of control, complexity of environment (i.e., IFR, VFR, TCA, etc.). Additionally, accident/incident and pilot deviation data needs to be researched. Much of that data does not show whether the Flight has one or two pilots.

Outcome: Will be determined after research can be funded and completed.

Subject: Section 91.79, Minimum Safe Operating Altitudes Project. Petition from National Balloon Federation.

Purpose: 1) Provide uniform standards' for minimum safe altitudes for all aircraft; 2) Establish minimum altitudes for balloons and helicopters; and 3) Establish objective standard of FAA enforcement and pilot compliance with Section 91.79 for terms "except when necessary for take off or landing," "over congested areas, " and "over other than congested areas."

Subject: USUA petition to establish ultralight vehicle standards, airman certification, vehicle registration and marking, and to include two-place vehicles as ultralight.

Purpose: USUA wants FAA to require ultralight pilots and manufacturers to register with industry association. Additionally, petitioner wants rules to allow bigger, faster, passenger-carrying ultralights to be operated under Part 103.

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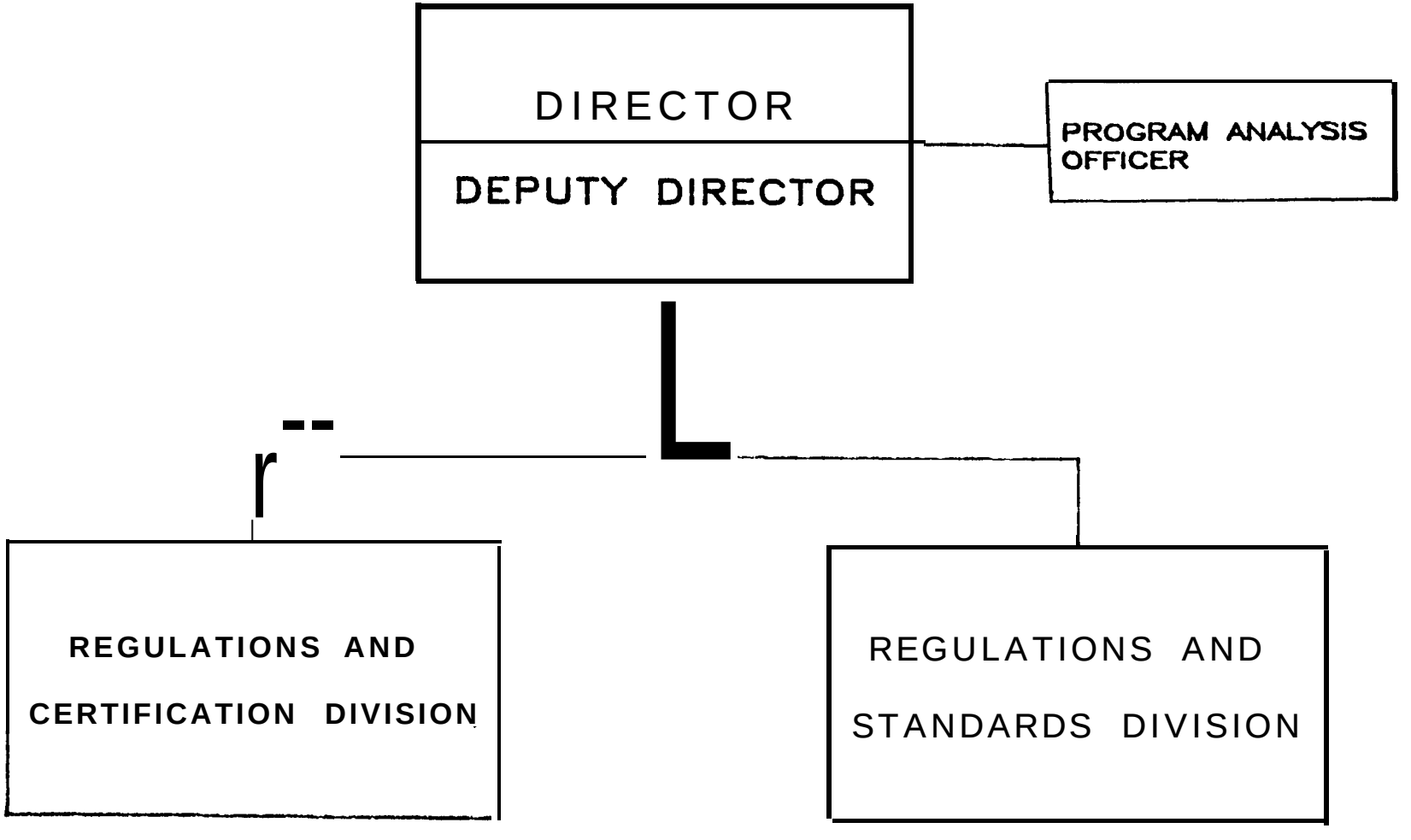
OFFICE OF RULEMAKING
(Proposed Organization)



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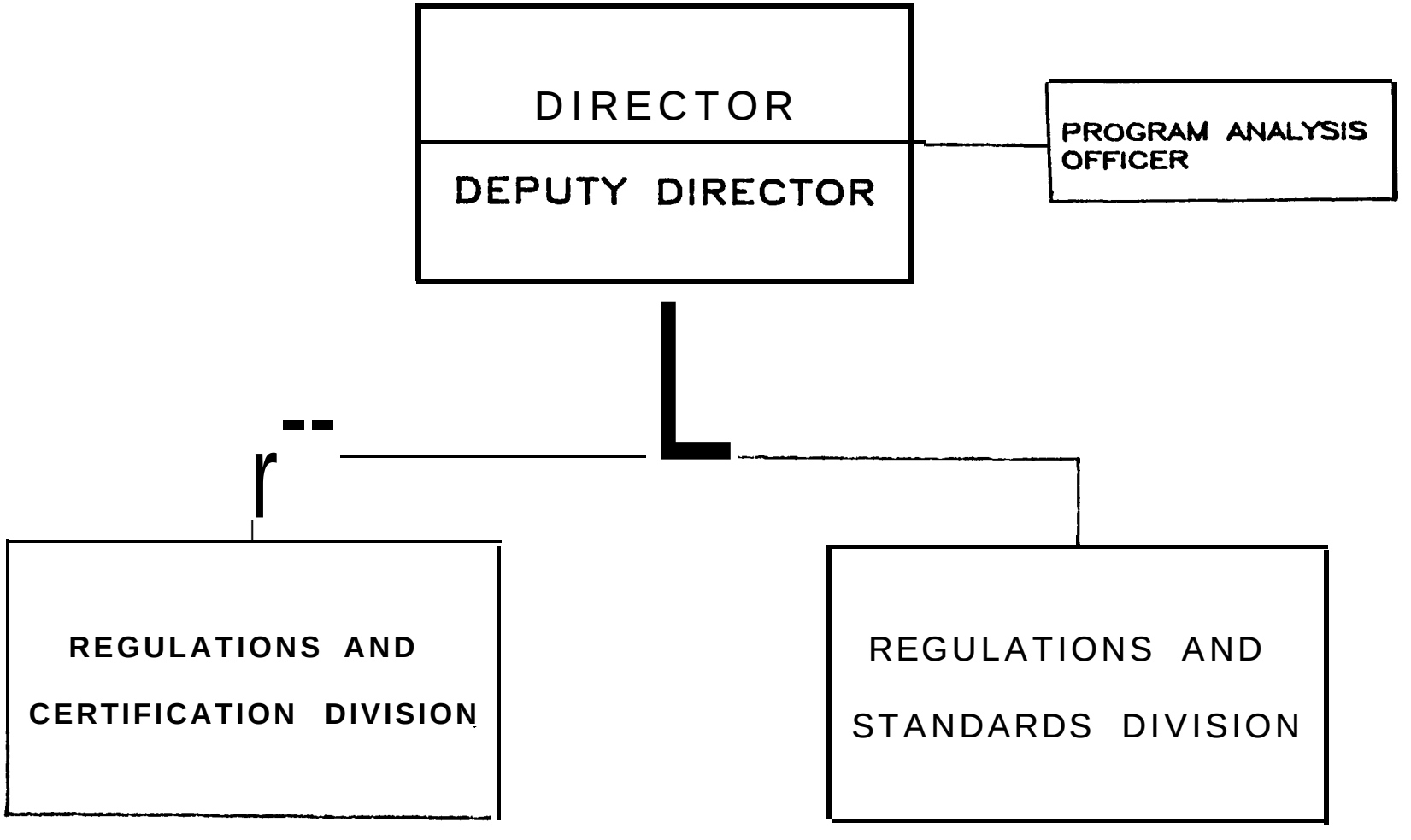

ARM GOALS

1. Improve the timeliness and quality of FAA rulemaking.

2. Improve communications and cooperation in the FAA rulemaking community.

3. Encourage professionalism and job satisfaction within ARM.

TITLE: Implementation of the Recommendations of the Task Force to Improve the FAA Rulemaking Process

RESPONSIBLE OFFICE: Office of Rulemaking, ARM-1

GOAL: Improve the Timeliness and Quality of FAA Rulemaking; Improve Communications and Cooperation in the FAA Rulemaking Community; Encourage Professionalism and Job Satisfaction within ARM

PURPOSE: This effort is being undertaken to implement the reorganization that was approved by the Administrator in July 1988.

DESCRIPTION: The Office of Rulemaking (formerly the Safety Regulations Division of the Office of Program and Regulations Management) is responsible for managing the entire agency rulemaking program. It is the agency focal point for discussion with the Office of the Secretary for rulemaking issues. It is also the source of contractor funding for the preparation of rulemaking documents. In addition, it provides drafting services for documents and serves as the co-manager of rulemaking projects to expedite their completion.

In July 1988, the Executive Director for Regulatory Standards and Compliance established a task force to review the rulemaking process and to recommend ways in which the FAA might improve the process, particularly in the areas of quality of documents, timeliness, and efficiency. The task force submitted a report with recommendations that identified ways in which constructive improvement would be possible. The majority of the recommendations were accepted, as presented by the task force, and approved by the Administrator in December 1988.

APPROACH: The Office of Rulemaking will assume a number of tasks that will implement the recommendations of the task force and the additional functional responsibilities brought about as a result of the reorganization. These tasks include development of a revised FAA Organizational Handbook to show the functions of the Office of Rulemaking (ARM); revisions to the former AVS rulemaking procedures to make them applicable agencywide; and establishment of an agencywide Regulatory Review Committee that will be organized and documented in an agency order. In addition, the office will assume more drafting responsibility for rulemaking documents. ARM will assume the responsibility for liaison with the Office of the General Counsel on rulemaking projects as well as items for the Secretary's Intermodal Issues.

OUTCOME: When this project has been completed, the agency will have one source for rulemaking information and one office for the Office of the General Counsel to contact concerning rulemaking.

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OUTCOME: When this project has been completed, the agency will have one source for rulemaking information and one office for the Office of the General Counsel to contact concerning rulemaking.

TITLE: The Regulatory Handbook

RESPONSIBLEOFFICE: Office of Rulemaking, ARM-1

GOAL. Improve the Timeliness and Quality of FAA Rulemaking; Improve Communications and Cooperation in the FAA Rulemaking Community

PURPOSE: The purpose of the project is to document the agency's regulatory process by developing an agency regulatory handbook to ensure consistency and standardization in the rulemaking arena.

DESCRIPTION: The present FAA handbook on rulemaking policies, Order 2100.13 was issued on June 1, 1976. The order does not reflect the numerous regulatory reform efforts, Executive Orders, statutes, etc., or internal FAA reorganizations that have taken place since the order was issued.

APPROACH/OUTCOME: Aviation Standards initiated action toward this goal with the development of a draft Aviation Standards Regulatory Handbook. A final draft was completed June 30, 1988. The Office of Rulemaking will now undertake the task of issuing an agency handbook which will address the entire agency's rulemaking process, including reorganization changes and approved task force recommendations. The June 1988 Aviation Standards draft will be used as the basis for the agency handbook.

MILESTONES:

Revised draft into coordination	9/1/89
Comments received	10/16/89
Comments incorporated	11/30/89
Handbook issued	1/15/90

RELATED PROJECTS: Implementation of the Recommendations of the Task Force to Improve the FAA Rulemaking Process.

INTERFACEOFFICES: This project must be coordinated with all program offices and services with rulemaking responsibility, as well as with the Office of the Chief Counsel.

TITLE: The Regulatory Handbook

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TITLE: The Regulatory Course

RESPONSIBLE OFFICE: Office of Rulemaking, ARM-1

GOAL: Improve the Timeliness and Quality of FAA Rulemaking; Improve Communications and Cooperation in the FAA Rulemaking Community; Encourage Professionalism and Job Satisfaction within ARM

PURPOSE: The purpose of the course is to educate personnel in the rulemaking process.

DESCRIPTION: The Regulatory Course is a l-week course that is designed for employees, GS-7 and above, with rulemaking responsibility. Learning is facilitated by having students who are technical specialists, writer-editors, attorneys, and economists work in teams to develop a rulemaking document.

APPROACH: Three to four courses are planned for each fiscal year.

OUTCOME: Raving all persons with rulemaking responsibility attend the course will facilitate the development of documents by providing guidance on their preparation, while at the same time improving the quality of the documents.

MILESTONES: Courses presented as requirements dictate and resources permit.

RELATED PROJECTS: None

INTERFACE OFFICES: The course is presented with assistance from the Offices of the Chief Counsel and Aviation Policy and Plans.

REMARKS:

TITLE: The Regulatory Information and Communications Subsystem (RICS)

RESPONSIBLE OFFICE: Office of Rulemaking, ARM-1

GOAL: Improve the Timeliness and Quality of FAA Rulemaking; Improve Communications and Cooperation in the FAA Rulemaking Community; Encourage Professionalism and Job Satisfaction within ARM

PURPOSE: The current development and tracking process for regulations uses a combination of word processing, the Automated Resume Subsystem, and a PC-based system. The RICS, when implemented, will eliminate the need for these individual items. In addition, the RICS will provide management with the information needed to manage the FAA rulemaking program. The RICS will speed up the development of rulemaking documents and in-prove communications among team members and with management. It will help the individual user to manage his or her projects by providing automatic tracking and communications.

DESCRIPTION: The current process is labor-intensive and time-consuming. It provides only minimal information to management, and the data cannot be manipulated to provide statistics or trends. Revisions to the Automated Resume Subsystem (ARS) provided improvements in the short term. As a long-term effort, however, the RICS will assist in the development, tracking, and management of rulemaking projects by making manual tracking unnecessary. Experience gained using the modified ARS will help considerably in the development of the RICS. Provisions will be made in the RICS to ensure compatibility between RICS and ARS so that there will be no need to maintain duplicate systems. The RICS will automatically keep track of the status of a project: it will tell you where a project is, when it went there, why it's there, what changes were made and by whom, and all of the other details necessary to manage a project. It will be a "network of networks." Each office with rulemaking responsibility will have its own network, which will in turn be connected to the networks of other offices with security safeguards to maintain the integrity of the individual networks. Access to the RICS will be provided through all rulemaking echelons, from the secretaries and technical specialists up through the Administrator. Eventually, access could be provided to the Office of the Secretary as well as to the Office of the Federal Register.

APPROACH: The RICS is being developed under a phased contract as part of the Aviation Safety Analysis System (ASAS). The first (or prototype) network will be installed in the Office of Rulemaking. The prototype network will have only minimal connectivity to the Offices of the Chief Counsel and Aviation Policy and Plans to allow transfer of documents back and forth between the Office of Rulemaking and the other two offices. Based on the experience gained in using the prototype network, the RICS design will be modified on-site to 'incorporate recommended changes. While the prototype is being tested, the contractor will begin gathering requirements for and designing the networks for the other offices involved in rulemaking. These additional networks will be phased in as the designs are completed and hardware is made available. The final phase of the RICS development effort will be to permit direct interface with other subsystems of ASAS.

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TITLE: Case Studies

RESPONSIBLE OFFICE: Office of Rulemaking, ARM-1

GOAL: Encourage Professionalism and Job Satisfaction within ARM

PURPOSE: The purpose of this project is to develop rulemaking format/guidance material for use by staff members to ensure standardization in development of agency rulemaking documents.

DESCRIPTION: With the consolidation of the processing of rulemaking documents in one office, it became apparent that there is insufficient standardization throughout the agency in the format and content of those documents. In addition, the offices with rulemaking responsibility all appeared to be processing those documents differently--some following a very formal procedure and others doing so in a much less formal manner.

APPROACH: Individual staff members from the Office of Rulemaking developed standard formats for notice of proposed rulemaking, final rule, and exemption documents. Staff members as a group discussed those standard formats and reached a consensus on the content of each. The revised formats will be coordinated throughout the agency and implemented as action notices and eventually incorporated in the Regulatory Handbook. Standard formats will also be developed for other types of documents, such as supplemental notices and Special Federal Aviation Regulations. Discussions will include developing a checklist for conducting public meetings. Three to four case studies are planned for each fiscal year.

OUTCOME: The formats that are developed will ensure standardization of agency rulemaking documents. In addition, the discussions will enable staff members to benefit by sharing with others the experiences they have had in the rulemaking process. Approved formats will be included in the Regulatory Handbook and will serve as the basis for documents created in the Regulatory Information and Communications Subsystem (RICS).

MILESTONES: Case studies will be held as requirements dictate.

RELATED PROJECTS: The Regulatory Handbook; The Regulatory Information and Communications Subsystem (RICS)

INTERFACE OFFICES: Draft formats must be coordinated with all agency offices having rulemaking responsibility, as well as with the Office of the Chief Counsel.

REMARKS:

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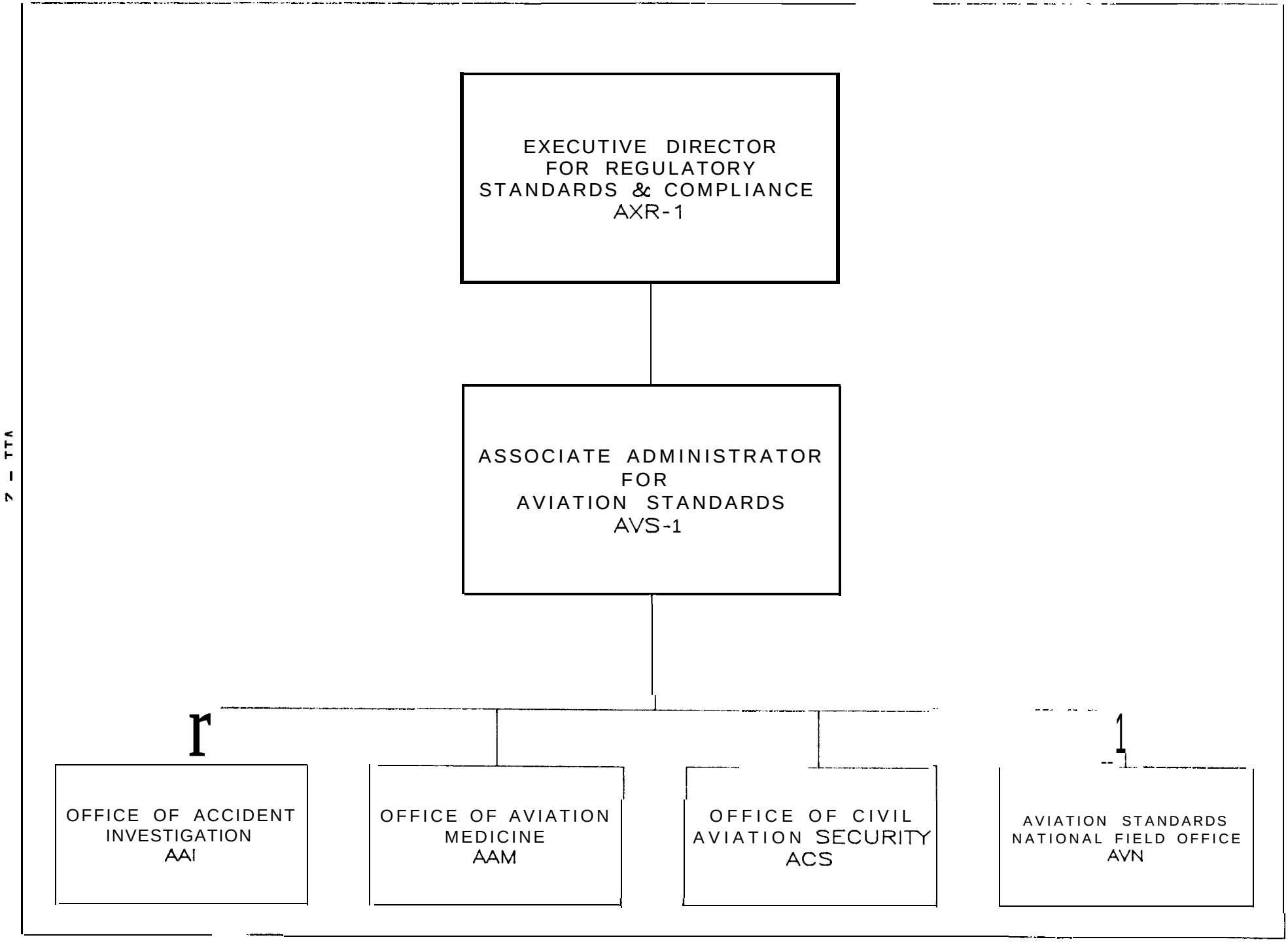
EXECUTIVE DIRECTOR
FOR REGULATORY
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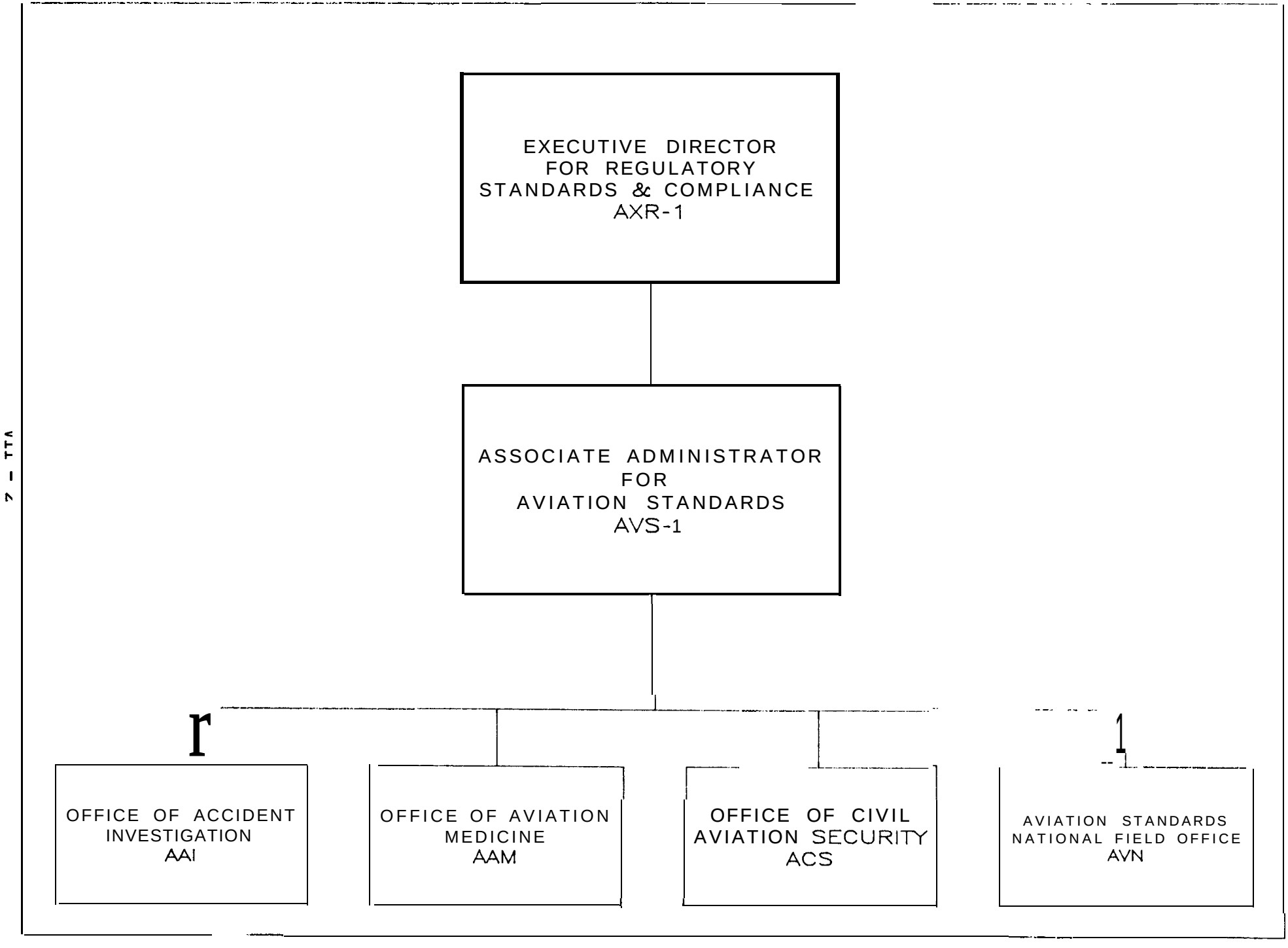
AVN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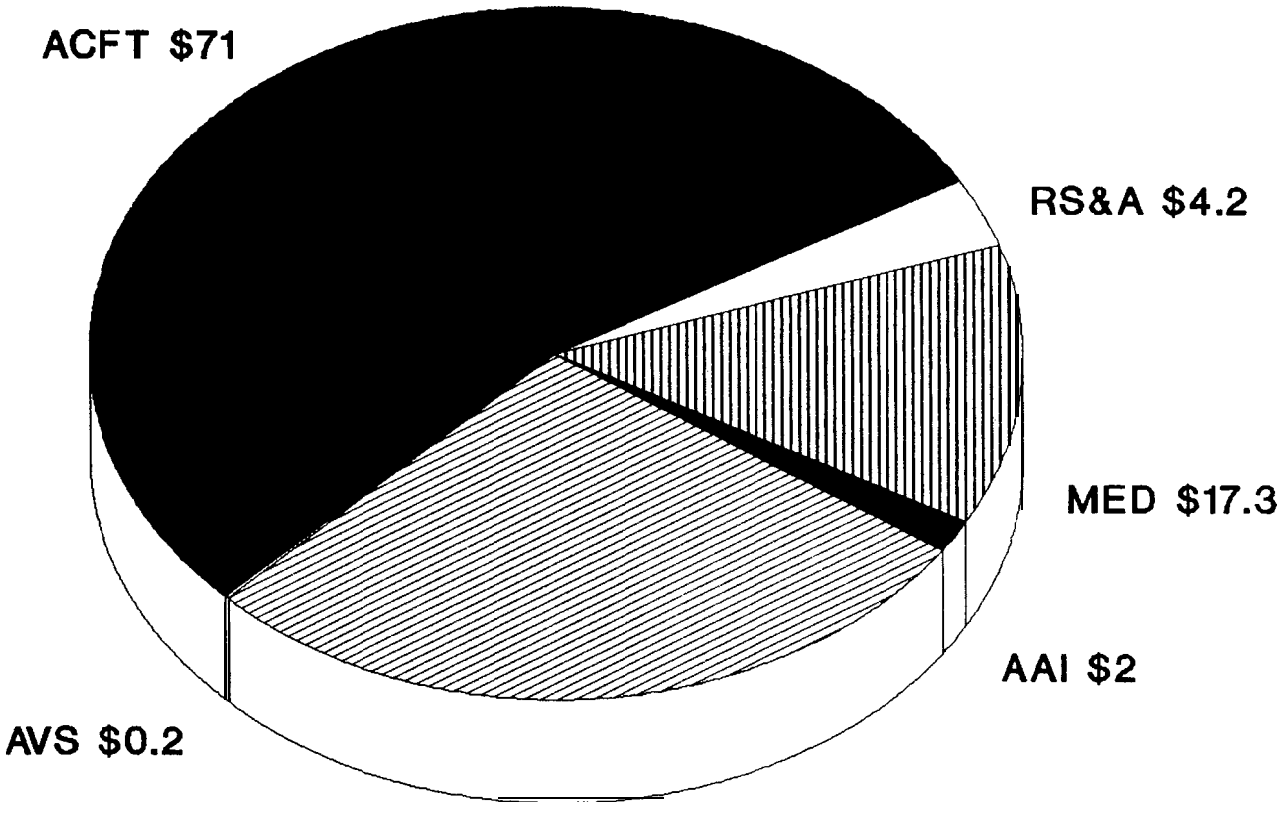
NATIONAL FIELD OFFICE
AVN

AVS Resources - FY 1990
(Dollars in Millions)



Operations Appropriation

AVS Resources - FY 1990
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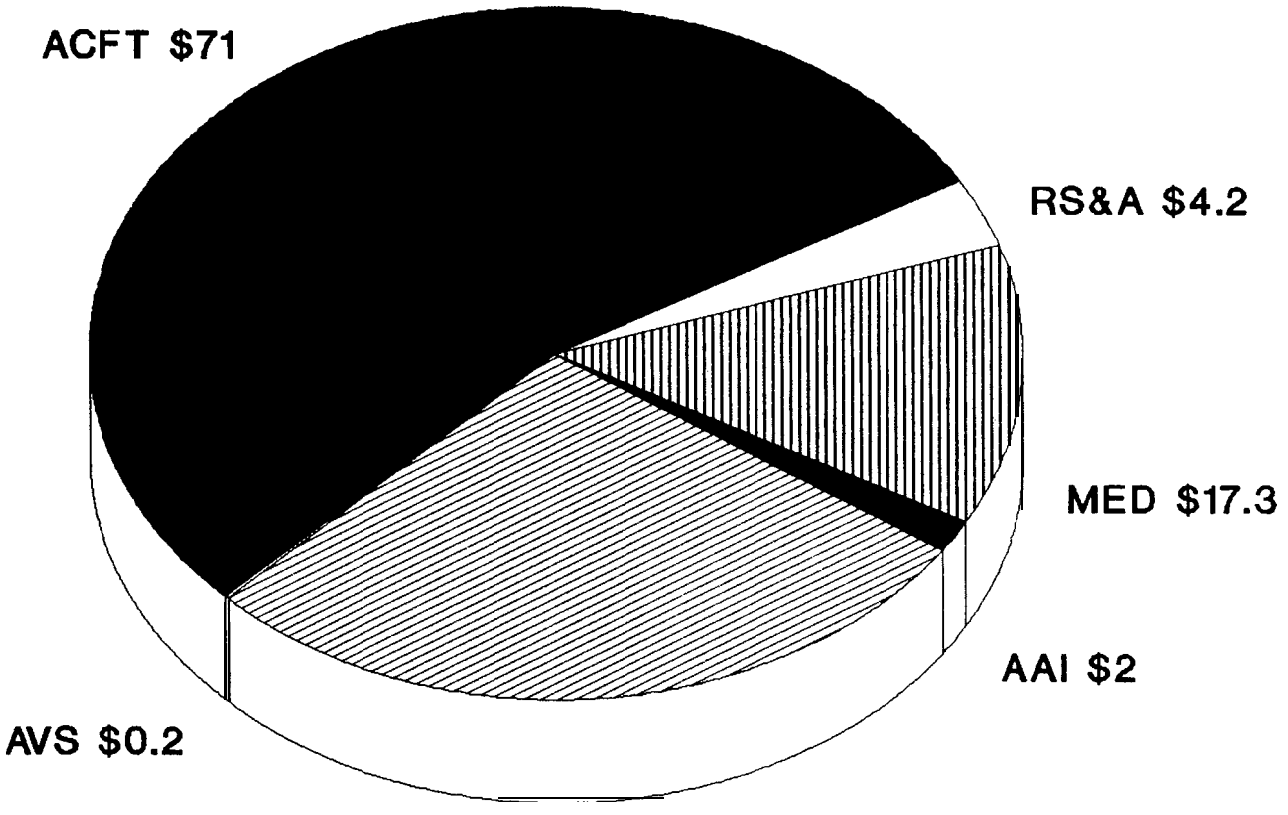
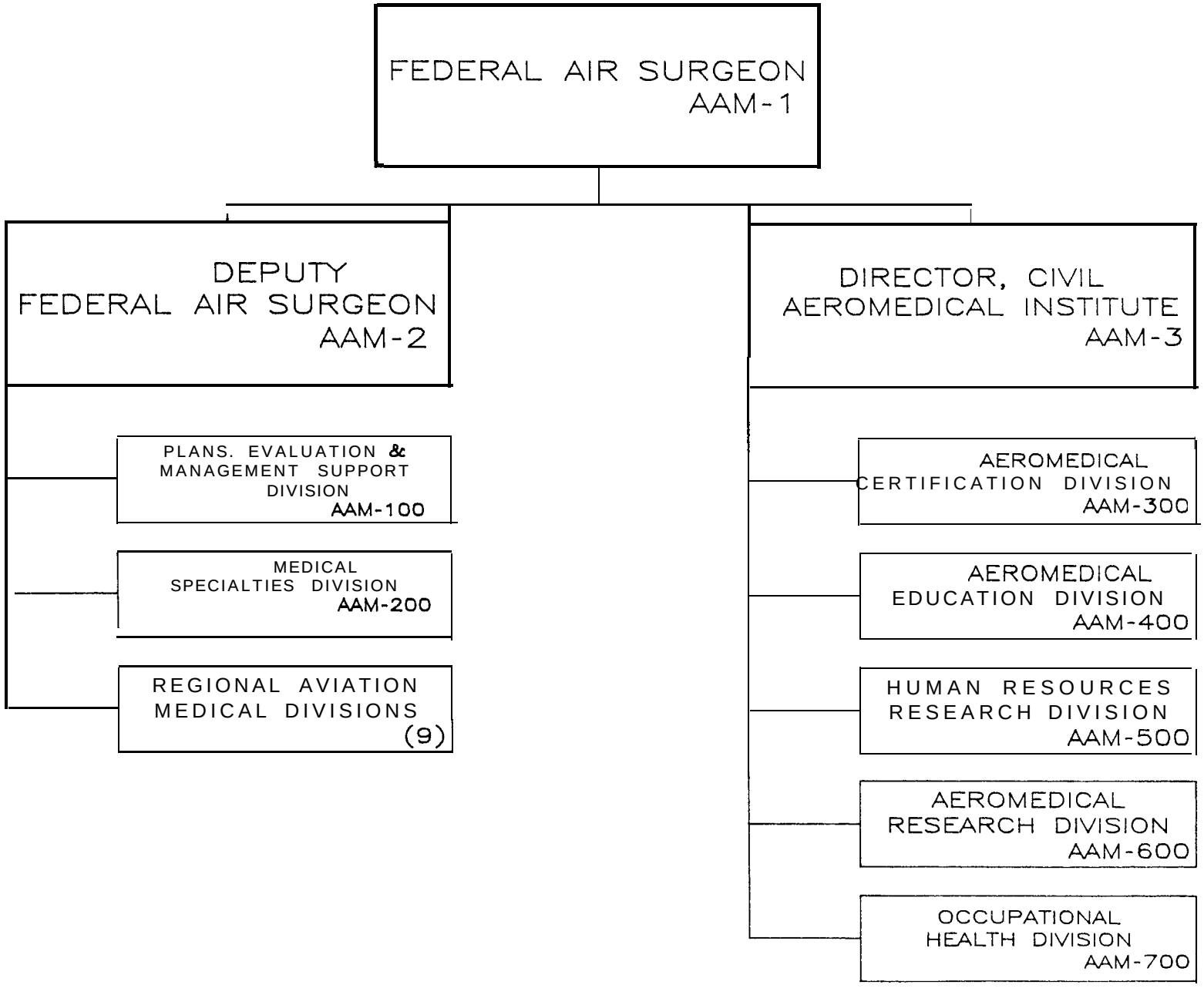
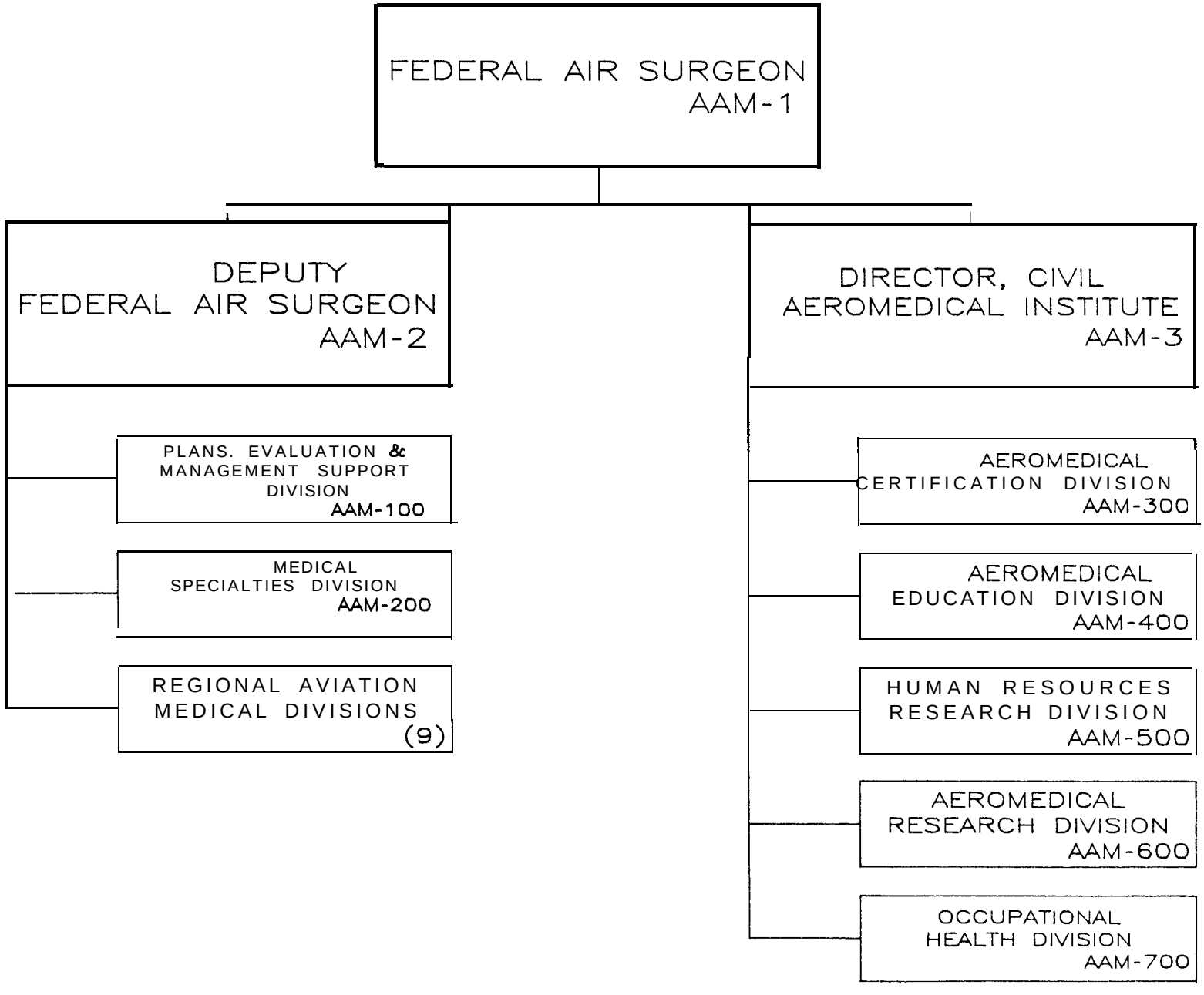


Operations Appropriation

OFFICE OF AVIATION MEDICINE



OFFICE OF AVIATION MEDICINE



The agency medical research program involves analysis, assessment, and improvement of (1) the role of the human operator in the air traffic control system; (2) the performance and work environment of airmen; (3) the safety and health of pilots and air crew, and (4) the safety of passengers and certain ground personnel. Most aeromedical research is carried on at the Civil Aeromedical Institute (CAMI). Such tasks as assessing aircraft restraint systems, oxygen systems, pilot and air traffic controller workload and human performance are handled there. In addition, CAMI personnel provide support for agency efforts to improve human resource management. As the prime governmental agency engaged in conducting civil aviation medical research, the importance of this program to aviation safety cannot be overemphasized. Although medical research activities continue to produce valuable information, funding and staffing restrictions have placed major limitations on the scope of program areas and the number of tasks that can be accomplished. These restrictions have a potentially adverse impact on aviation safety.

The agency carries out the aviation medical education and aircraft accident investigation program which have significant safety implications. Among these are AME aviation medicine training activities and administration of medical certification standards training activities. To support research and certification efforts, AME's also are trained in aircraft accident investigation techniques. Medical education of airmen is carried out through accident prevention seminars, survival training, and other instruction. To date, the training research program has: (1) developed six judgment training manuals for specific pilot audiences; (2) developed an audio-visual program on pilot decisionmaking for use in accident prevention seminars; and (3) conducted a survey of current cockpit resource management programs. These essential elements of the agency medical program are highly dependent upon the availability of funds. Curtailed funding necessarily limits activity in this area and has great potential for adversely affecting aviation safety.

The estimated operating budget for the Office of Aviation Medicine for FY 1990 - FY 1994 is as follows:

	Budgeted Funds ($000)			Authorized Positions					
				POS/FTEs		POS/FTEs		POS/FTEs	
Year	OPS	RE&D	TOT	OPS		RE&D		TOT	
1990	15,591	6,513	22,104	294	279	87	83	381	362
1991	23,929	7,275	31,204	333	316	115	109	448	426
1992	25,098	6,981	32,079	333	316	115	109	448	426
1993	25,626	7,988	33,614	333	316	115	109	448	426
1994	26,015	7,500	33,515	333	316	115	109	448	426

AAM Goals

1. Insure a drug-free aviation work force in commercial aviation. This will be done through the implementation of the 'Advisory circular' (AC No. 121-30) Guidelines for Developing an Anti-Drug Plan for Aviation Personnel.

2. Review and update the medical standards used for granting medical certification of airmen (Part 67, 14 USC 67, of the Federal Aviation Regulations (FAR)). Correspondingly, ancillary documents and program will be revised. These include revising the Guide for Aviation Medical Examiners (AME), updating medical education for AME's and airman, reviewing the application form for certification (FAA 8500-8), and expanding the automation of the certification process.

3. Revitalize aviation medicine services by reopening and creating new medical clinics.

4. Carry out research in protection and survival. Investigate accidents for medical factors using biomedical, pathological, and toxicological techniques. Conduct human performance research by assessing workload and performance of ATC personnel through task analyses and simulation. Issue research findings and develop medical standards as needed.

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Title: Implement Aviation Industry Anti-Drug Program

Responsible Office: Medical Specialties Division, AAM-200

Goal: To ensure a drug-free aviation work force and to eliminate drug use and abuse in commercial aviation.

Purpose: The FAA issued a final rule on November 21, 1988, requiring aviation industry employers to develop and implement anti-drug programs which include urine testing for illegal drugs. The employers must submit anti-drug plans to the agency for approval prior to implementation and in accordance with established time tables.

Description: The final rule, Anti-Drug Program for Personnel Engaged in Specialized Aviation Activities, requires domestic and supplemental air carriers, commercial operators of large aircraft, air taxi and commuter operators, certain commercial operators, certain contractors to these operators and air traffic control facilities not operated by the FAA or the U.S. military to have an anti-drug program for employees who perform sensitive safety- or security-related functions. Those who perform the following functions are covered:

- o Flight crewmember duties
- o Flight attendant duties
- o Flight instruction or ground instruction duties
- o Flight testing duties
- o Aircraft dispatcher or ground dispatcher duties
- o Aircraft maintenance or preventive maintenance duties
- o Aviation security or screening duties
- o Air traffic control duties

Employers will conduct preemployment, periodic, random, post-accident, reasonable suspicion, and return-to-duty testing for cocaine, marijuana, opiates, amphetamines, and PCP.

Approach: The Office of Aviation Medicine is preparing advisory circular material outlining details and suggestions for implementing the rule. Periodic meetings are held with various agency components (AGC, AFS, ACS, etc.) to coordinate implementation details and to establish standard interpretations of the rule. Regional Aviation Drug Abatement Managers from the Aviation Medical Divisions were in Washington the last week of February 1989 for a training conference which covered the interpretation and implementation procedures of the final rule.

Outcome: Air Carriers are expected to develop and implement drug testing programs in accordance with the FAA final rule.

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Title: Review Medical Standards and Certification Procedures (Part 67)

Responsible Office: Medical Specialties Division, AAM-200

Goal: A revised final rule, Part 67 (14 USC 67) of the Federal Aviation Regulations (FAR), with correspondingly revised ancillary documents.

Purpose: To review the medical standards for airman medical certification, their application, and associated agency policies and practices, and to formulate changes designed to ensure a medically sound and modem system for promoting aviation safety.

Description: The current standards for airman medical certification and the mechanism for evaluation and possible certification of individuals who do not meet those standards are reviewed and reports are prepared by selected groups of recognized medical experts. The report recommends revisions of the current, published medical evaluation techniques and criteria used for the selection of individual airmen for certification who fail to meet those published standards. Public comment is sought regarding the certification system generally and the expert report specifically. From the information gathered, a proposed final rule, revised Part 67 of the FAR, is entered into the formal rulemaking process according to established practice and the Administrative Procedures Act. Ancillary documents and guidelines are developed in concert with adoption of the final rule.

Approach: The FAA contracted with the American Medical Association (AMA) for a professional review of the medical standards by selected groups of nationally recognized specialists in all pertinent fields of medicine. A formal docket was opened for public comment regarding the medical certification process and additional public notice solicited comment regarding the report received from the AMA in March 1986. The report, all public comments, and agency staff recommendations are undergoing review by responsible staff and contractor and a draft Notice of Proposed Rulemaking is being prepared for revision of Part 67. Revision of the Guide for Aviation Medical Examiners, the application for airman medical certification, and other policy documents will follow final adoption of the revised rule. Non-controversial medical guideline changes are being, and will continue to be, made as appropriate and consonant with expert recommendations.

Products. Revised FAR Part 67; revised Guide for Aviation Medical Examiners; revised FAA Form 8500-8, Application for Airman Medical Certification; continued medically current evaluation practices; continued promotion of safety as related to the medical fitness of airman; conservation of human resources in the aviation system.

Milestones:

Draft NPRM	July 1989
NPRM	November 1989
NPRM Published	March 1990
Final Rule Published	March 1991
Ancillary Documents Complete	October 1992

Related Projects: Civil Pilots for Regulatory Reform (CPRR) Petition for Rulemaking; Webber Petition for Rulemaking

Interface Offices: Office of the Chief Counsel; APO; Office of Flight Standards

Remarks: Needs priority for economic analysis/administrative support

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Outcome: The management efficiency portion of the study concluded that the clinics could not be staffed adequately using current position authorizations, nor could they be staffed adequately due to the problem of recruiting qualified government personnel. The study proposed an organization to provide a fully staffed clinic with maximum contracting of commercial activities. Upon review of these results, it was decided to cancel the A-76 study and proceed with direct contracting to fill clinic positions.

This effort will improve the efficiency and effectiveness of the Occupational Health Program and will result in an ability to implement recommendations of the A-76 study which have the potential to provide long-term savings and to reduce FTE's.

Milestones:

Determine which clinics to contract	6/89
Complete contracting	1/90
Conclude A-76 study	3/90

Related Projects: none

Interface Offices: Program and Resource Management (APR), Management Systems (AMS)

Remarks: none

Title: Revitalize Aviation Medicine Services

Responsible Office: Plans, Evaluation and Management Support Division, AAM-100

Goal= To return to previous staffing levels nationally and to obtain fiscal resources to accomplishment this goal.

Purpose: The Executive Director for Regulatory Standards and Compliance has indicated an expectation that all organizational units operating in the field will perform the same services, within their program responsibilities, throughout the FAA.

Description: Over the past several years, as a result of limitations imposed, AAM has decreased its national staffing. Five ARTCC Clinics have been closed and out of a total of 21, nine are open only partially. Although staffing has been reduced from 56 to 39 persons at headquarters, staffing increase efforts began in FY-89. A total of 46 positions were authorized, five of which are to be used by the new aviation drug industry program. Two positions are being transferred to Oklahoma City to manage additional workload there. This will leave headquarters with a total of 44. Oklahoma City has increased its staffing by eight positions, raising its authorized level to 177. Over the past 10 years, CAMI's authorized staffing has dropped by approximately 30 positions.

Approach: In order that the Office of Aviation Medicine can fulfill its mission of providing medical services to agency employees, specifically air traffic controllers, and, thereby, fulfill its safety-related responsibilities , several things must occur. First, the FAA needs to recognize the real benefits in having the Center Clinics open and staffed. This is vital to ensuring aviation safety as a system which supports good health, alertness, and maximum efficiency in a work force dealing with general public safety on a 24-hour basis. Additionally, if an air traffic controller must take time off to visit his/her own physician to have blood pressure checks, to receive allergy shots, or other important services offered by the clinics, it represents a costly labor time loss for the agency.

The "Wellness Program," operated through the clinics, is of particular importance to a work force that deals entirely with the safety of the general public. This, and economies related to diminished absenteeism achievable through preventive medicine approaches, argues forcefully for maintaining and staffing all clinics.

Secondly, a plan is needed to determine on how to staff these offices and for proceeding to open and staff them. Planning must include space, as some clinic areas currently are being used for other purposes, and a schedule for placing these facilities in operation.

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Title: Automate Aeromedical Certification Processing at CAMI

Responsible Office: Aeromedical Certification Division, AAM-300

Goal: To automate and improve the medical certification processing system.

Purpose: To expedite the processing of applications for medical certification and to provide medical information on a timely basis.

Description: The Aeromedical Certification Division is the central screening facility and repository within the FAA for collection, processing, adjudication, investigation, and analysis of medical data generated by the Aeromedical Certification and regulatory programs.

Physical examinations to detect medical conditions which could incapacitate or otherwise adversely affect pilot performance are given by some 7,000 aviation medical examiners (AMEs), most of whom are physicians in private practice. Military applicants receive examination at some 410 military facilities. Reports of these examinations from throughout the world are forwarded to the Aeromedical Certification Division in Oklahoma City.

During 1988, some 470,000 medical applications were received and on January 1, 1989, some 680,000 active airmen were medically certified. Due to this, there is a continual processing backlog.

Approach: Efforts to automate the Aeromedical Certification Division have been underway for some tine. Installation of personal computers (PCs) and training of personnel have been partially completed. Eleven PCs were acquired during the past year.

An automated tracking system for Special Issuance cases has been developed and was implemented on January 3, 1989. The system provides background data and followup information on these cases.

Efforts have been underway to manage the high volume of daily telephone calls received in the division. A volume system with associated switchboard and equipment was leased to upgrade equipment which has proved inadequate.

At present, no formal training program exists to develop the required knowledge, skills, and abilities or the medical terminology required for accomplishing the review function. AAM-300 undertaken a formal training needs assessment and requirements analysis through a contract with RMCI (a firm specializing in technical training). Initial observations indicated an urgent need to develop and implement a standardized training program for our applications examiners. The existing contract is for the training needs assessment only. Additional money has been requested so the training plan can be developed. Additional PC's have been requested so each applications examiner will have one on his/her desk and so policy guidance and job aids can be automated.

The Office of Aviation Medicine has the responsibility of certifying airmen as medically fit to fly. The current certification process would be improved greatly by the utilization of computer and electronic techniques for data collection, transmission, and processing of approximately 80 percent of the applications. A study is being conducted to determine the feasibility and appropriateness of the automated screening and transmission of medical application (FAA Form 8500-8) data.

Outcome (1) A system, automated and manual, that will process medical certification records more efficiently and effectively. (2) Faster execution of the certification process with related positive impact on air safety. (3) Elimination of incomplete and reduction of inaccurate data on medical applications. (4) A new telephone system and equipment to eliminate delays in processing incoming calls. (5) A formal training plan to develop the required knowledge, skills, and abilities to accomplish the critical medical review function.

Milestones:

Amend current contract to provide job aids, computer-aided instruction, etc.	5/1/89
System development phase for the automated screening and transmission of medical application (FAA Form 8500-8) data	1/1/89
Testing of complete pilot system	3/15/89
Provide a PC for each of twelve applications examiners. PC's will be hooked into the CAIS and would also provide automated guidelines and job aids	5/30/90

Related Projects: Other AAM Automation

Interface Offices; AAC-300, APR-300

Remarks:

1. $30,000 required third quarter, FY-89 to add to existing contract for training needs. assessment and development of formal training plan.

2. Approximately $30,000 required to provide twelve PC's to applications examiners (FY-90).

3. Approximately $700,000 required to develop and implement expert system for automated screening and transmission of medical application (FAA Form 8500-8) data (FY-90).

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Outcome: The products of this four-phased project are:

1. Provide FAA management with detailed information allowing site-to-site comparisons of staffing levels, resource utilization, assignment of functions, position descriptions, performance standards, and training requirements.

2. Provide the Office of Aviation Medicine with clear alternatives and justifications for proposed organizations to satisfy the requirements of centralized FAA administration and operation.

3. Provide FAA maximum flexibility in recruiting, staffing, and structuring positions within the field offices, CAMI and Headquarters.

4. Provide training to ensure that aviation medicine employees are adequately prepared and competent to perform their duties in a standardized and efficient manner.

Milestones: The following completion dates have been projected for each phase of this project.

1.	Job Task Analysis	FY 1990
2.	Develop Organizational Recommendations	FY 1990
3.	Develop/Modify Position Descriptions, Recruiting Specifications, and Performance Standards	FY 1991
4.	Develop A Training Program	FY 1992

Related Projects: None.

Interface Offices: Office of Personnel Management (OPM)

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Title: Undertake Agency Work Force Optimization Program

Responsible Office: Human Resource Research Division, AAM-500

Goal: Reduce costs for selection/training/retention of personnel and enhance aviation safety through development of a skilled and motivated work force.

Purpose: To increase the efficiency and productivity of agency personnel through the application of human factors research, while also maintaining and improving employee motivation, dedication, and morale.

Description: Studies will be conducted to determine optimal methods for selection and training, primarily in the Air Traffic Controller Career Field.

Approach: The Office of Aviation Medicine is acquiring a task analysis data base for use in identifying current and future operational systems. Comparisons of the personnel requirements of current and future systems will be utilized to develop recommendations concerning selection and training program requirements. Selection and training program modifications based on future system requirements will ensure that personnel are prepared to operate and maintain the National Airspace System (NAS) properly at all times. Evaluation and validation research on new components of screening and training programs as they are developed and implemented will ensure that the transition from the old system to the new is systematic and effective. Assessments will include determinations of the human resource requirements involved in controller/pilot interaction.

Also being developed is a methodology for quantifying the effects of design change, or increased automation, on workload and performance of the air traffic controllers. This will be used as an input for personnel system changes as the selected design is introduced to the NAS. Several of these approaches will contribute to new criteria and tests to be applied in the medical screening of Air Traffic Control Specialists (ATCS's) and other critical category personnel.

Other new tests and assessment instruments are being evaluated and developed for use as additional data sources to improve the personnel selection and assignment process, including that for supervisors and managers. Evaluations will be conducted on the ATC Supervisor Identification Program (SIDP) and similar programs developed for other organizations within the Agency. Refinements in the instrument and conduct of the biennial agency-wide Job Satisfaction Survey also are underway.

Outcome:

- State-of-the-art selection of air traffic controllers
- Criteria for identifying training and training equipment needs
- Methods for evaluating training programs
- Guidelines for security personnel to follow in observing people at boarding gates to detect potential hijackers and terrorists

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Title: Carry Out Human Performance Research

Responsible Office: Human Resources Research Division, AAM-500

Goal: Reduce human error in the airplane cockpit, Air Traffic Control (ATC) System, and aircraft maintenance functions

Purpose: To enhance understanding of the human function in the complex environment of ATC, pilot, and cockpit systems in support of agency rule-making activity.

Description: Research will be conducted on sources and causes of error as well as on methods to enhance human performance in various aviation contexts.

Approach: Assessment of the workload and performance of ATC personnel has been a matter of active scientific study for decades. Now it is possible to measure productivity and effectiveness objectively through task analyses and simulation. This project will monitor closely the progress of similar ongoing programs with the National Aeronautics and Space Administration, the Department of Defense, and industry. Collaborative studies in areas of mutual interest will be pursued extensively. In-house expertise will be enhanced to stimulate design suggestions for ATC and pilot-associated equipment development and improvement. Test facilities will be used for conducting a broad range of investigations under this testing environment: a B-727 aircraft simulator; multiple test performance apparatus for evaluating responses to stress conditions; a disorientation device for assessing the effects of the interaction of motion and other stress factors on performance; and simulated controller suites for research on the effects of such factors as age, stress, and rest on controller performance.

An automated Human Performance Model will be developed to represent the controller's job in the AAS/AERA-2 environment. This will be used to assess the effects of the AERA-2 capabilities on controller workload and productivity.

The following areas will be investigated:

Advanced Automation - The characteristics of advanced automation and the Sector Suites will be examined, and a realistic assessment made of the associated workload. Based on a systematic data analysis, the FAA will address methods of reducing or eliminating boredom, inattention, stress, and fatigue due to fluctuations in controller workload. An understanding of the allocation of pilot/controller responsibility will be crucial to this analysis. A study of the feasibility of quantifying the effects of increased automation on the workload and performance of air traffic controllers will be completed.

- Controller Performance Measurement - A major initiative during 1984-1985 was the development and validation of objective means for measuring controller performance. This effort will provide a baseline for future workload assessments and possibly a field evaluation tool. Feasibility studies at the Radar Training Facilities of the FAA Academy will result in a standardized computer-based system for performance measurement. A study of human factors contributing to controller errors has been accomplished. The study included information on the reliability of today's systems, a summary of past and ongoing human factors which work to control occurrence of such errors, and planned programs to increase man-machine system reliability.

- Airman Performance Measurement - The vast majority of aircraft accidents result from a variety of pilot errors. These are associated with deficiencies in training, proficiency, equipment and systems design, management, and judgment. These problems of air carrier and general aviation pilot performance will be addressed. Because errors in judgment are responsible for many fatal accidents, major efforts are planned to evaluate judgment training materials developed for advanced airman populations. Other newly-developed concepts, such as cockpit resource management for multicrew applications, also will be evaluated. A judgment training manual for helicopter pilots has been produced. This will be distributed throughout Government and industry for use in the helicopter community.

Operational Error Evaluation System - A goal of the NAS Plan is to reduce ATC operational errors by 80 percent by 1995. To accomplish this, it is necessary to have improved techniques for accurate classification and counting of operational errors, and to utilize a fundamental understanding of their causes. This project will develop a data base on operational errors designed to identify underlying human-related causes, and to serve as a basis for developing improved selection/training systems and for identifying possible preventive methods. A study of human factors related to air traffic controller operational errors has been completed.

- ATCS Color Vision Requirements - Ongoing research in evaluating ATCS functional color vision requirements. Also, job-related clinical screening tests and a developmental ATCS functional color perception test are being evaluated. This research is planned to provide job-related ATCS color vision standards and job-related certification tests for measurement of ATCS functional color vision.

Outcome:

- Reports describing methods for measuring controller workload and performance

- Controller Performance Measurement - A major initiative during 1984-1985 was the development and validation of objective means for measuring controller performance. This effort will provide a baseline for future workload assessments and possibly a field evaluation tool. Feasibility studies at the Radar Training Facilities of the FAA Academy will result in a standardized computer-based system for performance measurement. A study of human factors contributing to controller errors has been accomplished. The study included information on the reliability of today's systems, a summary of past and ongoing human factors which work to control occurrence of such errors, and planned programs to increase man-machine system reliability.

- Airman Performance Measurement - The vast majority of aircraft accidents result from a variety of pilot errors. These are associated with deficiencies in training, proficiency, equipment and systems design, management, and judgment. These problems of air carrier and general aviation pilot performance will be addressed. Because errors in judgment are responsible for many fatal accidents, major efforts are planned to evaluate judgment training materials developed for advanced airman populations. Other newly-developed concepts, such as cockpit resource management for multicrew applications, also will be evaluated. A judgment training manual for helicopter pilots has been produced. This will be distributed throughout Government and industry for use in the helicopter community.

Operational Error Evaluation System - A goal of the NAS Plan is to reduce ATC operational errors by 80 percent by 1995. To accomplish this, it is necessary to have improved techniques for accurate classification and counting of operational errors, and to utilize a fundamental understanding of their causes. This project will develop a data base on operational errors designed to identify underlying human-related causes, and to serve as a basis for developing improved selection/training systems and for identifying possible preventive methods. A study of human factors related to air traffic controller operational errors has been completed.

- ATCS Color Vision Requirements - Ongoing research in evaluating ATCS functional color vision requirements. Also, job-related clinical screening tests and a developmental ATCS functional color perception test are being evaluated. This research is planned to provide job-related ATCS color vision standards and job-related certification tests for measurement of ATCS functional color vision.

Outcome:

- Reports describing methods for measuring controller workload and performance

Cabin Cut Protection and Survival Research

Responsible Office: Aeromedical Research Division, AAM-600

Goal: Enhance aviation safety through study of equipment and procedures that will reduce injury incidence in accidents

Purpose: To develop, in cooperation with airspace users and industry, data and analysis for assessing the efficacy of concepts for protection and survival following aircraft accidents. This research serves to promote optimal survival concepts.

Description: Studies will be conducted on aircraft seats/restraints, water survival and protective breathing equipment and methods, cabin safety systems, aircraft evacuation considerations, and materials toxicity.

Approach: Protection and survival are dependent upon the interaction of people with equipment certified or approved by the FAA. FAA efforts are directly or indirectly related to emergency equipment and/or procedures. Generally, the approach is twofold: first, to support rulemaking or certification actions by evaluating the merits, demerits, costs, and benefits of specific safety-related appliances; and second, to promote the development and proper use of these appliances through educational initiatives in cooperation with industry and airspace users. The following areas are being investigated:

- Seats and Seat Restraints - Near-term regulatory initiatives have emphasized potential improvements in seats and restraint systems. Tests of seat and restraint systems for use in general aviation aircraft were completed. Testing will support seat and restraint crashworthiness determinations and validate the seat occupant models. Tests of energy attenuation concepts and the characteristics of composite-material seats will be performed during controlled impact tests. Seat impact testing and medical technical expertise provide the basis for development of Notices of Proposed Rulemaking on air carrier and general aviation seat strength and injury protection requirements. Protection requirements for side-facing seat occupants will be determined. Far-term efforts will include tests designed to provide data on new technologies. Regulatory requirements and test procedures will reflect evolving concepts of civil airman and passenger tolerance. Close cooperation with other agencies involved in parallel human tolerance efforts will be ensured.

- Water Survival - Near-term efforts will continue to focus on the development of viable and cost-effective water survival concepts and procedures. Standards for floatation platform will be developed; seat cushion buoyancy requirements and performance criteria will be assessed in a dynamic environment. Mid-term efforts will focus on airport water rescue requirements such as aircraft and rescue equipment compatibility. Test methodologies will be developed in order to assure consistent procedures in manufacturer certification of air carrier and general aviation seats. The progress of industry in this area will be observed to keep pace with new developments. CAMI research provides data needed for the donning requirements in Technical Service Order (TSO) c-13e.

- Protective Breathing Equipment - Near-term efforts focus on improved technical standards for protective breathing equipment (PBE) used by aircraft crews. The effectiveness of new criteria will be evaluated against the range-of-profile characteristics of the crew population. Tests of passenger protection will be completed. Future studies will be directed toward passenger and crew protection standards for advanced-technology aircraft. Performance standards are being developed for passenger protective breathing equipment. This involves study and determination of gas requirements of passengers using such equipment in an emergency evacuation. Performance tests of various new design protective breathing devices will be conducted. An international study group has been established (Office of Aviation Medicine, the Canadians, British, and French) to work in this area. Devices with self-contained air/gas supplies will be studied. A separate TSO is being developed for cabin crew, as opposed to flight deck crew, and it will be important to identify special PBE needs for cabin crew when executing their duties during such events as inflight fires and emergency evacuations.

On May 26, 1987, the Administrator issued Amendment No. 121-193 (with a compliance date of July 6, 1989). This final rule amends the regulations applicable to protective breathing equipment by: (1) incorporating the requirements of Section 25.19 of the Federal Aviation Regulations into current Section 121.337; (2) providing new standards for PBE for crew members who may be required to fight inflight fires; (3) requiring the performance of an approved fire fighting drill using PBE; (4) requiring that, when possible, additional PBE be located within three feet of each required hand fire extinguisher in passenger compartments; and (5) clarifying certain emergency drill requirements. This action was prompted by several inflight fires and, in part, by a report on PBE by the National Transportation Safety Board.

- Toxicity - to develop reasonable standards for cabin interior materials, it is necessary to derive limits for smoke and toxic gas. This program will continue to support the development of a small-scale toxicity test procedure that will correlate with full-scale tests conducted under the Aircraft Fire Safety project. Additionally, some effort will continue on the fundamental understanding of the combined effects of irritant and toxic gases. This will contribute to development of a hierarchy of materials based on their toxicity to humans. Tests of the toxicities of combinations of the gases carbon monoxide (CO) and hydrogen cyanide (HCN) are being conducted. These are frequently found in the combustion of aircraft cabin interior materials. Efforts are underway to determine numerical relationships involving toxicity of various combination ratios for these gases. The Office of Aviation Medicine participates in an Interagency Fire Combustion Toxicity Working Group which deals with such matters as computer modeling of fire and toxic projects production and laboratory studies of materials toxicity. Aviation Medicine provides results of its work to the group and monitors the work of others.

Radiation: Specialized review of ionizing and RF/microwave radiation will continue as part of a comprehensive response to FAA management and air carrier questions related to occupational health.

- Evacuation - A study of actual and estimated evacuation distances covered by passengers has been completed. The effects of four different seating configurations on access to and flow rate through an over-wing emergency exit were studied. The results of these investigations supported an agency project dealing with number and spacing of emergency exits. Special studies will be conducted to assist other agency development programs.

Outcomes:

- Human tolerance data and criteria to support the certification of aircraft seats and restraint systems

- Criteria to support the certification of flotation and on-board rescue equipment

- Criteria to support the certification of protective breathing equipment and operational procedures

- Criteria to support the certification of fire and smoke/toxicity limits of aircraft interiors

- Criteria to support the certification of cabin safety and evacuation procedures (A Notice of Proposed Rulemaking on emergency lighting has recently been issued that is indicative of the types of criteria under consideration.)

Milestones: The following milestones have been identified.

- Maintenance, update, and reporting of CAMI Cabin Safety Data Bank is continuous (includes actual and demonstration evacuation data, cabin safety inspection reports, airline medical kit usage, accident and incident reports.)

- Support testing of NASA Shuttle Seats in FY 1989 and 1990

- Research Support for Commuter Water Impact Survival Study through FY 1991

- Computerized model of cabin evacuation process by FY 1992

- Recurrent performance testing of crew flight deck and potential crew protective breathing equipment through FY 1992

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Title: Provide Aeromedical Program Support

Responsible Office: Aeromedical Research Division, AAM-600

Goal: Improve Aviation Safety through enhancing the airman medical certification process and through educational, occupational health, and accident investigation programs.

Purpose: To increase safety of aviation by ensuring the health of airmen through the medical certification program and educational efforts; also, to increase agency work force efficiency by providing healthful work environments for agency employees.

Description: Studies of effects of various illnesses, injuries, and therapeutic modalities on airman performance will be conducted. Also accident investigations will form the basis for advisory and educational programs.

Approach: A series of studies will be undertaken to support the data needs of the Federal Air Surgeon:

- Aeromedical Certification and Standards - A complete review of the aeromedical standards of Federal Aviation Regulations Part 67 was undertaken using a body of aeromedical experts. This two-year initiative is expected to result in a series of recommendations for rulemaking following completion of reviews required by the Administrative Procedures Act. Current activities include studies designed to evaluate the effect of therapeutic drugs on human performance, to improve cognitive function testing during aeromedical examinations, and to investigate the applicability of emerging techniques for the assessment of vision to more directly predict pilot performance, and studies using epidemiological methodology for correlating medical certification decisions with safety-related data bases to demonstrate the validity of administrative actions.

- Medical Accident Investigations - Recurring and special studies are undertaken in response to the National Transportation Safety Board, industry, and the Federal Air Surgeon to determine potential crew incapacitation and medical factors associated with aircraft accidents. From these studies, common factors and injuries are identified and reported to support national education and regulatory actions. Far-term trends, such as incidence of elevated blood alcohol and drugs, can be assessed in this way.

Occupational Health - Agency occupational health programs and their costs constitute a major responsibility of the Federal Air Surgeon, and require data analyses. These analyses identify the measurable benefits of special intervention programs designed to lower the cost of public services. Of particular importance are those health impacts potentially unique to FAA occupations. Special research studies will be undertaken in response to potential or alleged occupational hazards as they are identified. Advisory information on crew member exposure to cosmic radiation will be developed for use in aeromedical education for the air carrier industry.

- Aeromedical Education - These activities provide the mechanism for the training of FAA-designated aviation medical examiners. They also serve a valuable safety purpose in promoting non regulatory concepts that are significant to airman health. Generally, airman aeromedical educational activities are directed toward classic concepts in flight physiology, aviation psychology, and aeromedical problems. Additionally, special-emphasis topics, such as accident investigation, survival training, and aviation examiner seminars, are promoted.

outcome:

- Annual reports on alcohol and other drug-related accidents
- Revised standards for evaluating medical criteria and procedures
- Criteria to support the regulatory process in the areas of crashworthiness and drug usage
- Toxicology of fatal accidents (continuous)
- Guidelines for processing mass-casualty accidents
- Handbook on radiation levels and Advisory Circular on crew member radiation
- Aeromedical-related pamphlets for use in the Accident Prevention Program

Milestones: The following milestones have been identified:

- Radiation Handbook development will be continuous
- Accident Investigation Program Enhancements will be completed by FY 1990
- Study of effect of various illnesses, injuries, and therapeutic modalities on performance, toxicology of fatal accidents, and aeromedical education of aviation personnel are continuing efforts
- Development of prototype automated cognitive function tests in FY 1990
- Reports summarizing impact of apkakia and intraocular lens use in aviator accident experience in FY 1990
- Reports describing the relationship of aging, work/rest scheduling, and other work force parameters in airmen and other aviation-related occupations will be continuous

Related Projects: Aircraft Systems Fire Safety - will identify new cabin-interior materials for the investigation of toxicological effects.

Interface Offices: Human Resource Management (AHR)

Remarks: None.

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Remarks: The life-cycle funding for this project is as follows:

Cost:	Minim:	$2.0 Mil
	Maximun:	$6.0 Mil
Staff:	Minimum:	12 FTEs
	Maximum:	15 FTEs

Cost is expected to fall into the following categories:

60% Personnel, Training, Maintenance (Overhead)
30% Hardware and Software
10% Supplies

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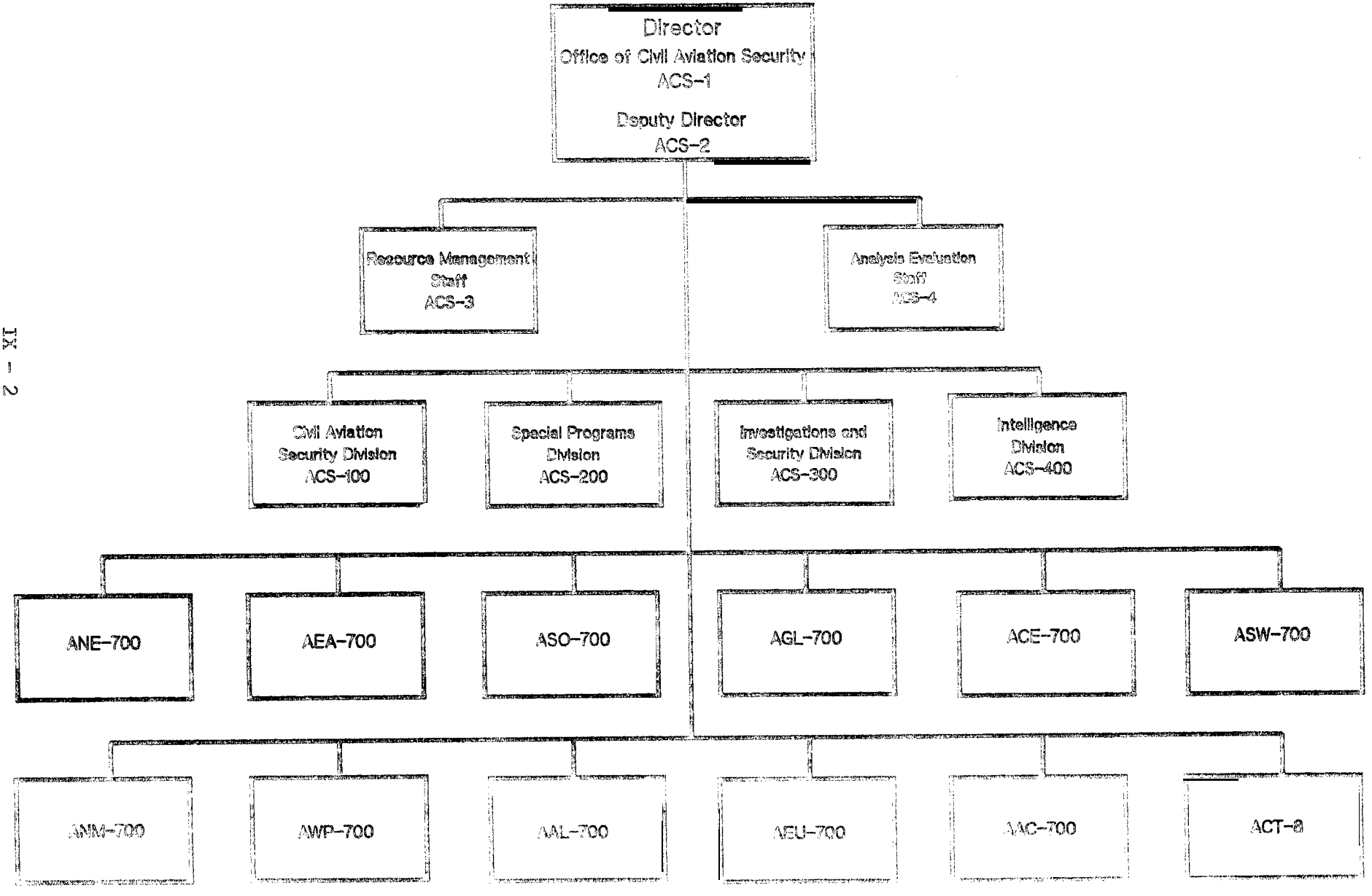
THE OFFICE OF CIVIL AVIATION SECURITY



OFFICE OF CIVIL AVIATION SECURITY

Introduction. As a result of the incident aboard Pan Am Flight 103, the Office of Civil Aviation Security (ACS) has received a great deal of attention concerning the Federal Aviation Administration's (FAA) responsibility for the prevention of criminal and terrorist acts against civil aviation.

While the civil aviation security procedures presently in effect worldwide have been successful, the FAA continues to monitor aviation security practices closely and modify, as necessary, those aspects of the system critical to the protection of U.S. citizens traveling in air commerce. Furthermore, the responsibility rests with ACS to implement the aviation security initiatives announced by the Secretary of Transportation. In order to carry out its mission, resources must be available, not only for ongoing operational programs, but in the area of research and development.

Within the next 5 years, the ACS work force is estimated to grow to approximately 1,200 security special agent and support personnel. These personnel are assigned in headquarters, nine regional offices, the Mike Monroney Aeronautical Center in Oklahoma City, the Technical Center in Atlantic City, the Europe, Africa and Middle East Office, and 29 field offices throughout the country.

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- Management of the FAA K-9 Explosives Detection Team Program
- Implementation of Enforcement Information System and management of Civil Aviation Security data in the system
- Investigation of certain criminal violations of aeronautical statutes and certain operations/activities of aircraft, airmen, agency personnel, and/or situations deemed necessary in support of the FAA mission
- Aviation security technical assistance program
- Development, implementation, evaluation, and, as appropriate, enforcement of rules, regulations, policies, systems, guidelines, processes, and procedures governing aviation security programs managed and administered by the FAA

Resources. The ACS programs, as of March 11, 1989, are carried out by an onboard work force of 496 security special agent and support personnel in headquarters; nine regional offices; the Mike Monroney Aeronautical Center in Oklahoma City; the Technical Center in Atlantic City; the Europe, Africa and Middle East Staff; and 29 field offices throughout the country. Many of the special agents are also trained and utilized as FAM's. During FY 1986, Congress authorized 200 additional positions for aviation security following the hijacking of TWA Flight 847 in June 1985. Many of these positions were used to increase the number of FAM's for use in inflight security assignments. As of Fiscal Year (FY) 1989, the authorization was increased to 564, and an additional increase of 120 positions is being requested for FY 1990. The actual and planned out-year operating budget for ACS for FY's 1990 through 1994 is as follows:

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POSITIONS

Fiscal Year	FTP Authorized Positions	Full-Tim Equivalent Work Years
1990	684	588
1991	766	716
1992	846	792
1993	926	868
1994	1,001	939

The requested and/or planned increases in the budget will cover the increased staffing, plus needed initial and recurrent training and overtime for expanded FAM Program missions and an accelerated foreign airport assessment program. Funds have also been earmarked for a major threat assessment study, continuation of risk analyses and security certification of sensitive automated information systems pursuant to A-123 and A-130, and additional explosives detection units.

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Title: Elevate Standards for X-rays and Metal Detectors

Responsible Office: Civil Aviation Security Division, ACS-100
Special Programs Division, ACS-200

Goal: To prevent or deter aircraft hijacking, sabotage, and related criminal acts.

Purpose: Enhance performance standards resulting from improved technologies.

Description: Each certificate holder required to conduct screening under a security program shall use the procedures, facilities, and equipment described in its approved security program for detecting explosives, incendiaries, and deadly or dangerous weapons to inspect each person entering a sterile area at each preboarding screening checkpoint in the United States for which it is responsible, and to inspect all accessible property under that person's control.

Approach: A review and analysis of the state-of-the-art technology is currently being conducted, and elevated standards will be proposed. In addition, a rule change will be necessary to phase out pre-1985 x-ray equipment.

Outcome: Higher standards for systems to reflect state-of-the-art technology. Systems that do not meet performance standards will be required to be replaced.

Milestones:

- Notice of Proposed Rulemaking Action Completed by FAA - December 1989
- Change to Standard Security Program

Related Projects: Research and Development

Interface Offices:

- Office of Rulemaking
- Chief Counsel

Title: Increased Focus on Aircraft/Airmen Involved in Illegal Drug Activity

Responsible Office: Office of the Director, ACS-1A, Security and Investigations Division, ACS-300

Coal: To increase enforcement activity against aircraft and airmen involved in illegal drug activity.

Purpose : To demonstrate FAA commitment to playing its part in not tolerating the use of aircraft or the participation of airmen in illegal drug activities.

Description: The Office of Civil Aviation Security will take steps to implement a more aggressive enforcement program designed to assess civil/criminal sanctions against owners and operators of aircraft involved in illegal drug activity. Action may also be taken against any airmen convicted of violating a Federal or State drug statute.

Approach: Drug Investigation Support Units (DISU) will be introduced in the field and will be responsible for preparing Enforcement Investigation Reports (EIR) for revocation of aircraft registrations and suspension/revocation of airmen certificates. A standard operating procedure, agreed to by Flight Standards, Civil Aviation Security, Chief Counsel, and the Aviation Standards National Field Office will be implemented in order to expedite the enforcement process. DISU's may receive information from both FAA and external sources; e.g., U.S. Customs Service (WCS) or Drug Enforcement Administration (DEA) and send completed EIR's directly to Assistant Chief Counsels. There will be an organization within ACS to manage the program.

Outcome: Criminal prosecutions and regulatory actions targeting airmen and/or aircraft involved in smuggling-related violations of the Federal Aviation Act .

Milestones: Proposal for a new headquarters organization prepared - FY 1989.

Related Projects: Memorandum of Understanding between USCS, DEA, and the FAA concerning narcotic associated operational procedures.

Development of CASIS Drug Investigation Subsystem which will provide a statistical and intelligence data base.

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Title: Project SECURE

Responsible Office: Office of the Director, Resource Management Staff, ACS-3

Goal: The long-term goals of this project are to build a structure that promotes standardized training for special agents, develops a common standard throughout the agency for special agent positions and develops an organizational structure that supports career progression and succession from within.

Purpose: To conduct a job task analysis, develop new staffing standards, standard positions and career pathing focusing on the occupation of special agents engaged in internal and external aviation security activities and an individualized self-directed study program.

Description: Over the last several years, the FAA has experienced significant fluctuations in the levels of personnel resources available to perform its security functions. Prior to the TWA hijacking on June 14, 1985, the agency had experienced a 50 percent reduction in special agent resources; following the June 14 incident, these resources have been restored to previous levels. As a result of these fluctuations, civil aviation security lost much of its skilled experience base and is now aggressively hiring new agents. Although the new agents require extensive training in aviation security, most are young and have good academic credentials and law enforcement backgrounds. In the midst of these radical changes in personnel demographics and basic skill levels, the FAA has recognized the opportunity to review existing policies and procedures and make positive changes to help each field office perform all internal and external functions equally well.

Approach: The specific functions of this project are as follows:

Describe specific tasks as performed by selected special agents

Describe the flow of job tasks as currently assigned

Relate each task to specific security objectives described in mission statements and performance objectives

Develop time, frequency, and criticality data relating to functions for use in development and validation of staffing standards

Identify specific billets and categorize required tasks by security area to determine the types of people needed to perform them effectively

Highlight efficiencies gained from specific groupings of tasks

Note the positive and negative effects of the existing organizational structure on task flow and performance

Use the task analysis as a baseline for comparative analysis of regional aviation security objectives and performance

Outcome:

More accurate alignment of position descriptions with the tasks actually performed by special agents

Development of recruitment specifications for the ideal special agent--one who will met existing requirements and be easily trainable for future changes in function, as the FAA continues its move toward the application of increasingly advanced technologies

Identification of the most efficient hiring profile to provide multiskilled generalists where a low volume of similar job tasks exist or specialists where task volume or technical requirements indicate increased effectiveness from consolidation of functions

Development of the optimum organization for regional offices and Civil Aviation Security Field Offices (CASFO) that provides for career ladder progression and succession for skilled managers

Development of more effective basic and refresher training for all agents

Development of viable staffing standards

Milestones:

Phase I:

Functional Analysis - Completed
'Complete Staffing Standards - FY 1989
Implement New Staffing Standards - FY 1990

Phase II:

Civil Aviation Security Position Review, Career Pathing and Recruitment Specifications Development - FY 1989

Phase III:

Development of Training Program - FY's 1989-1991

Phase IV:

Complete a Staff Study Designed to Develop a Standard Organization - FY's 1990-1991

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Title: Civil Aviation Security Information System (CASIS)

Responsible Office: Office of the Director, Resource Management Staff, ACS-3

Goal: Enhance CASIS to fully meet user requirements.

Purpose: Review CASIS as it now exists and initiate the appropriate action to modify the system so that it fully meets the current and future requirements of users and to clean up data that currently resides in the CASIS data base.

Description: CASIS was initially developed by Sterling Systems, Inc., and the System Development Corporation, at the Transportation Systems Center, Cambridge, Massachusetts. The initial CASIS user test was completed in Washington at the FAA's Office of Civil Aviation Security on February 6, 1985.

To prepare civil aviation security personnel for use of the system, a training program was developed by IOCS, an Aviation Safety Analysis System (ASAS) contractor, which included classroom instruction. However, due to funding reductions, the classroan instruction was terminated prior to the training of all civil aviation security personnel.

Another major problem that was encountered was an insufficient number of computer devices for the civil aviation security users to input and extract data. With the lack of training and insufficient devices, problems were encountered from the onset. Data was not being inputted, and the data that was entered by civil aviation security users and/or the contractor was, for the most part, incorrectly entered or duplicated. Based on a review of the data contained in the data base, it was determined that a complete cleanup effort was required. While the data base was frozen for this effort, additional enhancements were identified.

Approach: Project enhancements included a review of the number of input screens currently in the system, elimination of extraneous input screens, and a redesign of the input screens to more closely match printed forms from which information was extracted as well as modification of subsystem user manuals and development of self-study training guides.

Outcome To have an efficient, effective, fully operational information system.

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Another major problem that was encountered was an insufficient number of computer devices for the civil aviation security users to input and extract data. With the lack of training and insufficient devices, problems were encountered from the onset. Data was not being inputted, and the data that was entered by civil aviation security users and/or the contractor was, for the most part, incorrectly entered or duplicated. Based on a review of the data contained in the data base, it was determined that a complete cleanup effort was required. While the data base was frozen for this effort, additional enhancements were identified.

Approach: Project enhancements included a review of the number of input screens currently in the system, elimination of extraneous input screens, and a redesign of the input screens to more closely match printed forms from which information was extracted as well as modification of subsystem user manuals and development of self-study training guides.

Outcome To have an efficient, effective, fully operational information system.

Establishment of Task Group to Identify Requirements for Management Information Subsystem. Development of Software Requirements and Documentation/User Tests and Release of Subsystem for Data Entry - FY's 1989-1990

Identification of User Requirements/Development of Software and Documentation for Part 109 (Indirect Air Carrier) Data - FY 1990

Development of Consolidated Self-Study for All CASIS Subsystems - FY 1990

Related Projects:

Interface Offices:

Office of Program and Resource Management, APR
Mike Monroney Aeronautical Center
Civil Aviation Security Divisions
Transportation Systems Center

Title: Office of Civil Aviation Security Evaluation Program

Responsible Office: Office of the Director, Analysis Evaluation Staff, ACS-4

Goal: To provide ACS with enhanced technical program accomplishments through the development of a program evaluation process.

Purpose: Ensure that ACS's programs and projects are consistent with long-term goals and objectives.

Description: Perform program evaluations at headquarters, regions and field offices on civil aviation security programs. Develop special studies and reports which highlight civil aviation security short and long term planning activities.

Approach: In concert with established FAA policies and procedures, as well as the AXR Evaluation philosophy, provide mechanisms for evaluating civil aviation security planning and programming activities.

Outcome: Improved Office of Civil Aviation Security program efficiency and effectiveness.

Milestones:

Program Development - FY 1989
Program Implementation - FY 1989
Conduct Program Evaluations/Management Effectiveness Studies, and Ad Hoc Studies - FY's 1989-1994

Related Projects:

Statistical Analyses

Consolidated Personnel Management Information System (CPMIS)

Management Information System

Civil Aviation Security Information System (CASIS)

Enforcement Information System (EIS)

Interface Offices:

Resource Management Staff, ACS-3
Civil Aviation Security Division, ACS-100
Special Programs Division, ACS-200
Security and Investigations Division, ACS-300
Intelligence Division, ACS-400
Office of Program and Resource Management, APR
Office of Management Systems, AMS
Civil Aviation Security Divisions
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Title: Civil Aviation Security Resource Utilization Master Plan

Responsible Office: Office of the Director, Analysis Evaluation Staff, ACS-4

Goal: Provide civil aviation security management with an information tool which can be used for long-range planning of personnel resource requirements and to highlight potential conflicts which may arise causing a major impact on headquarters and/or regional workload.

Purpose: Ensure that personnel resource requirements in headquarters, regional civil aviation security divisions, including civil aviation security field offices, are sufficient to meet agency security workload requirements.

Description: In order to effectively and efficiency carry out the civil aviation security mission, long-range planning of the utilization of personnel resources is mission critical. To support the planning process, a methodology and management tool is required that identifies, groups, and displays organizations, activities, dates, and resource requirements at regularly scheduled intervals. Once the data is collected and processed, management will have an overview of agencywide workload demands. In addition, it will be able to identify overlapping requirements, or scheduling conflicts, which may strain personnel utilization and, therefore, be able to take timely corrective action to more equitably distribute the workload with the least disruption to the operational effort. Since planning is an ongoing process the Civil Aviation Security Resource Utilization Master Plan would be updated periodically; ideally, on a quarterly basis. Historical data will be archived and used for further analysis.

Approach: Develop and implement an information tool for management that identifies civil aviation security resource requirements.

Outcome: Provide a quarterly resource management plan.

Milestones:

- Program Definition - FY 1989
- Program Devlopment - FY 1989
- Evaluation Testing - FY 1989
- System Implementation - FY 1989
- System Enhancements - FY 1990-1994

Interface Offices:

- Office of the Director, Resource Management Staff, ACS-3
- Civil Aviation Security Division, ACS-100
- Special Projects Division, ACS-200
- Security and Investigations Division, ACS-300
- Intelligence Division, ACS-400
- Civil Aviation Security Divisions
- Civil Aviation Security Field Offices

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- Civil Aviation Security Field Offices

Title: Security Deficiency Identification System

Responsible Office: Civil Aviation Security Division, ACS-100

Goal: To develop a system of documenting aviation security inspection and compliance activities in a manner that will readily indicate those areas which need greater emphasis and closer scrutiny to ensure complete compliance with minimum regulatory requirements.

Purpose: To provide ACS management with the capability to recognize aviation security areas that need additional or special attention so that technical and personnel resources can be focused and redirected toward those areas.

Description: The system will have the ability to query both the Civil Aviation Security Information System (CASIS) and the Enforcement Information System (EIS) to compare the activities documented in each of these systems and identify those areas which require increased inspection/enforcement activity. This would include all such activities under Parts 107, 108, 109 and 129 of the Federal Aviation Regulations.

Approach: In order to develop this system, staff members will be assigned the task of outlining the program goals and objectives and will coordinate software requirements with program developers. Once the software has been produced, a series of validation tests will be conducted to verify that program objectives have been met.

Outcome: This system will provide civil aviation security management with the ability to maximize utilization of available personnel resources in a manner which will ensure the greatest benefit to civil aviation security.

Miles tones:

Program Definition - FY 1989

Program Development - FY 1990

Software Development - FY 1990

System Implementation - FY 1990

Evaluation Testing - FY 1990

Program Implementation - FY 1991

Related Projects: e

Interface Offices: Office of Program and Resource Management, APR-300

Title: Aviation Security Research and Development Program

Responsible Office: Special Programs Division, ACS-200

Goal: To develop technology to fit into a total aviation security system to detect or deter terrorist sabotage and hijack threats against civil aviation.

Purpose: The Aviation Security Research and Development Program of the FAA is directed toward the development and deployment of systems and devices which prevent or deter hijacking and sabotage against civil aviation.

Description: The program is divided into projects dealing with the threats posed by explosives, hijacking weapons, and other unlawful acts. Both mature technologies and newer high-risk payoff technologies are pursued leading to the fielding of systems and modification of procedures.

Approach: Following the institution of the FAA screening program, the Air Transportation Security Act of 1974 (Public Law 93-366, Title II) was enacted. It directed the FAA to conduct research and development appropriate to developing systems and devices for the protection of civil aviation against acts of criminal violence and aircraft piracy. Since the initiation of the current research and development program in 1976, the major thrust has been the development of automated detection equipment to screen people, baggage, and cargo for concealed explosives. In the intervening years, the FAA and other Federal agencies have allocated substantial resources to explosives detection. However, the challenge is difficult because of the high volume of objects and people requiring screening, the large number of screening points, and the vulnerability of an aircraft to even a small quantity of explosives. Other research areas which have been pursued include flammable detection, enhanced weapons detection, and damage mitigation procedures, if an explosive device is found on an aircraft in flight. The tragic events of late June 1985 added an additional emphasis to expedite and expand the program.

Outcome: The development of a security system that is able to detect a broad range of threat weapons and explosives and also have the flexibility to include new threats as they develop. The deployment of the Thermal Neutron Analysis System is a result of this program.

Milestones:

Development leading to procurement of explosive vapor detectors - FY 1991

Development leading to procurement of plastic weapon detection systems - FY 1992

Continued exploration and exploitation of new technologies - FY's 1989-1994

Related Projects: Explosives Security Program

Interface Offices: FAA Technical Center Aviation Security Branch

Title : Aviation Explosives Security Program

Responsible Office: Special Programs Division, ACS-200

Goal: To analyze developments and predict future threats by explosive devices against civil aviation security. This analysis and testing will result in policies, procedures, and training to deal with explosive devices encountered against civil aviation.

Purpose : To develop and administer a program to manage FAA's actions and initiatives pertaining to explosives.

Description: Federal Aviation Regulations (FAR) Parts 107 and 108 require specific actions by airport operators and air carriers in response to threats and actual incidents involving the use of explosives against civil aviation.

Approach : Recognizing this threat in 1970, the FAA established an aviation explosives security specialist position and a program to assist the civil aviation industry in 1971. The purview of this program includes:

The development of bomb threat and incident management procedures for ground and in-flight incidents, studies and analysis of threat , and incident activity;

Aviation explosives security training , test devices, audiovisuals, and distribution;

Preparation and presentation of training seminars and courses for all industry and related technical support personnel;

Technical consultations training and advice to U.S. industry, other U.S. Government agencies , foreign civil. aviation industry and governments; and

Technical expertise on explosives related aircraft accidents in support of ASF and the National Transportation Safety Board.

Though the Aviation Explosives Security Program has existed since 1971, the events of 1985-1986, which included the aborted attempt to place a bomb on an EL AL (Israeli Airline) flight in London Heathrow Airport and the bombing of TWA 840, focused new attention on the program. An additional aviation explosives security specialist was recruited to assist the program manager. In addition, each FAA regional Civil Aviation Security Division has designated a qualified individual to coordinate regional activities in this specialized area, The Office of Civil Aviation Security is responsible for overall supervision and management of the program.

Theme: Office of Civil Aviation Security has recently published a manual entitled "Bomb Threat Response Guide for Civil Aviation Managers" which provides all air carrier managers with a clear , concise management guide for logical response to bomb threats against their aircraft and

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Title: FAA K-9 Explosives Detect ion Teams

Responsible Off ice : Special Programs Division, ACS-200

Goal: To maintain, and increase where resources allow, the quality and number of explosives detection dog teams and participating law enforcement locations .

Purpose: This program provides explosives detector support to airports and commercial aircraft nationwide. The dog teams are trained and evaluated on their ability to work and detect typical explosive devices in the airport environment.

Description: The U.S. Air Force , through a reimbursable agreement with the FAA, provides initial training at Lackland Air Force Base, Texas, as well as follow-on evaluations, and refresher training for civilian law enforcement officers and K-9 dogs in patrol techniques and detection of explosives.

Approach: The FAA K-9 Explosives Detection Program was implemented in 1972. Currently, there are 32 local law enforcement organizations participating in this program. In order to participate in the program, each jurisdiction must agree to establish two teams. The FAA will support up to five teams (each team consists of one dog and one handler) for each participating organization.

All teams assigned to this program must be familiar with aircraft and automobile searches, baggage and related containers, and air operations area. Participants in this program can be dispatched to any location throughout the world where this type of specialized aviation explosives detection technical assistance is required. Every team is evaluated at least once a year and must recertify or return to Lackland for additional training .

Outcome: Continued presence of trained, evaluated, explosives detection dog teams.

Milestones: Continuation of:

Training of New Teams - FY's 1989-1994

Semiannual K-9 Support Seminar -FY's 1989-1994

Annual Evaluation of Teams by U.S. Air Force - FY's 1989-1994

Related Projects: Aviation Security Research and Development Program

Interface Offices: United States Air Force
Law Enforcement Participants in K-9 Program

Title: Investigations Support Unit

Responsible Office: Investigations and Security Division, ACS-300

Goal: Develop an investigative and response capability within the Office of Civil Aviation Security to conduct criminal and regulatory investigations of Title 49, as amended, and provide FAA support to other agencies with an air interdiction mission.

Purpose: Conduct criminal and regulatory narcotic associated Title 49 investigations and to provide FAA investigative support to Federal, State, and local law enforcement agencies with an air smuggling interdiction mission.

Description: FAA criminal investigators assigned to the field to conduct criminal and/or regulatory investigations of airmen and/or aircraft involved in narcotic smuggling. Drug interdiction Civil Aviation Security Information System (CASIS) subsystem to provide a national data base needed to facilitate in the analysis of criminal patterns, as well as providing statistical data needed for mandated Congressional reporting.

Approach: To carry out this mission, FAA criminal investigators will be assigned to key field offices to facilitate a time-sensitive response capability. Criminal investigations of smuggling associated Title 49 violations will require a 7 day week, 24-hour response capability to assist other agencies which operate on a 7 day week, 24-hour basis. Additionally, the field placement will facilitate a liaison function integral to the FAA interdiction support mission. A small headquarters unit will provide guidance and support to field elements.

Outcome: Criminal prosecutions and regulatory actions targeting airmen and/or aircraft involved in smuggling related violations to the Federal Aviation Act.

Milestones : (Pilot Program)

Full Staffing of Headquarters Drug Interdiction Support Unit (DISU) - FY 1989

Implementation of CASIS Subsystem - FY 1989

Memorandum of Understanding between Federal Aviation Administration, U.S. Customs Service, and Drug Enforcement Administration, re: Operational Responsibilities - FY 1989

Full Staff of Field Offices and Associated Training - FY 1990

First Program Evaluation - FY 1991

Resource Allocation/Reallocation - FY 1991

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Title: Automated Information System Security Program

Responsible Office: Investigations and Security Division, ACS-300

To implement the requirements of National Telecommunications and Information System Security Policy (NTISSP) No. 200.

Purpose: To assure that all automated information systems owned, operated, or controlled by the Federal Aviation Administration, which process classified, or sensitive unclassified information, and accessed by more than one user, when those users do not have the same level of authority, are afforded a standard Controlled Access Protection Class 2 (C2) level of protection.

Description: Major characteristics of C2 level of protection are:

1. Individual accountability through identification and authentication of each individual automated information system user.

2. Maintenance of audit trails of security-relevant events.

3. Ability to control a user's access to information according to the authorization the user has.

4. Prevent one user from obtaining another user's residual data.

Approach: To carry out its mission, FAA has in place, and under development, a wide variety of Automated Information Systems ranging from large special purpose systems (Advanced Automated System - AAS) and sensitive administrative systems carrying proprietary budget/personnel information to individual microcomputer workstations. These systems process an equally wide variety of special purpose and general software applications. Due to an increased dependence on these systems to accomplish daily tasks, it is imperative that the Federal Aviation Administration's AIS facilities are designed, and actually function, in a safe, secure, and efficient manner. To be truly cost effective, AIS security must be incorporated into the system at the earliest possible point within the system life cycle; therefore every effort will be made to incorporate C2 requirements during the initial design phase for new systems and at the update or modification phase of existing systems.

Outcome: Meet the minimum requirements of NTISSP No. 200 on all new systems put into service after 1992 and upgrade existing systems to the most efficient, cost effective, and secure environment by 1994.

Milestones:

Publication of Automated Information Systems Security Handbook, FAA Order 1600.54B - FY 1989

Establish Operating Elements for AIS Program - FY 1989

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Responsible Office: Investigations and Security Division, ACS-300

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Establish Operating Elements for AIS Program - FY 1989

Title: Federal Air Marshal (FAM) Program

Responsible Office: Special Programs Division, ACS-200

Goal: To ensure compliance with Public Law 99-83 and the Presidential mandate to provide Federal Air Marshal coverage on high-risk flights worldwide and to responde to terrorist activities.

Continue to conduct and maintain recertification requirements on a semiannual basis for the entire FAM cadre per FAA Action Notice 1650.2.

Continue to coordinate all program, logistical, operational, and administrative requests with specific Government agencies to include:

Department of State
Department of Treasury
Department of Defense
Federal Bureau of Investigation
Federal Emergency Management Agency

Coordination is also conducted with all U.S. air carriers at the corporate and field levels, both domestically and internationally.

Purpose: Continue to utilize FAM's on U.S. air carriers flying international routes and to improve their technical and professional skills.

Description: In order to maintain the expertise necessary to perform the various functions as a FAM, two key areas surface:

1. Specialized training; and
2. Constant interaction with various Government agencies.

Approach: Because of career progression and attrition, FAM basic classes are conducted periodically to meet agency staffing requirements.

Outcome: A well-trained, highly professional FAM cadre dedicated to provide coverage on board U.S. air carriers operating in high-risk areas of the world. Teams are deployed specifically as a countermeasure against the threat of terrorist hijacking.

Milestones:

Special Coverage Provided On Board U.S. Air Carriers During the 1988 Summer Olympic Games

Graduation of Three FAM Basic Classes during 1988

Semiannual Recertification of All Cadre Members

Initial Basic Training - January/February Each Calendar Year

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Title: Deployment of FAA Thermal Neutron Analysis (TNA) Machines at Selected Locations

Responsible Office: Special Programs Division, ACS-200

Goal: The prevention of criminal and terrorist acts against civil aviation.

Purpose: Deploy mature explosives detection technology devices to ensure air passenger safety.

Description: In recent years, commercial air travel has become increasingly threatened by acts of terrorism. In the early 1970's, hijacking was the primary threat. More recently, bombs have taken over as the number one threat to air passenger safety. Explosive devices have been smuggled onto aircraft in both checked and carry-on baggage.

A new technology to detect explosives, called thermal neutron analysis or TNA, has been developed. TNA works by bathing luggage in low energy (thermal) neutrons and analyzing the gamma rays resulting from neutron absorption by atomic elements in the luggage. TNA's computer software searches for specific combinations of atomic elements that characterize explosives. TNA can detect all known commercial and military explosives including hard-to-detect plastic explosives.

The technique is independent of operator interpretation for routine screening. The analysis takes place in seconds and cleared bags are passed on a conveyor to aircraft loading. Luggage that cannot be cleared by the system is automatically diverted from the main flow of cleared bags.

Approach: Deploy 6 TNA devices by the end of January 1990. A TNA has been installed at New York (Kennedy), and another unit is planned to be installed in Miami in September.

Outcome: Collection of operational data that will be useful in the implementation of a requirement for air carriers to install and use explosives detection systems.

Milestones:

Related Projects:

Research and Development Program
Explosives Detection

Interface Offices:

Chief Counsel
Regional Security Division's
Air Transport Association

Title: Deployment of Additional Civil Aviation Security Specialists in Europe, Africa, and the Middle East (AEU).

Responsible Office: Office of the Director, Resource Management Staff, ACS-3

Goal: To increase the civil aviation security (CAS) positions in AEU to 41 positions by the end of FY-90.

Purpose: Enhance the level of civil aviation security in the Europe, Africa, and Middle East area, to raise the level of security and safety of those traveling in air commerce.

Description: The current AEU security staffing will be increased by 27 positions throughout the first three quarters of FY-90, bringing the onboard total staffing to 41 positions by end of year. These additional resources will assure that the FAA can more effectively and efficiently conduct its operations in this area of the world as well as be more responsive to the needs of the U.S. flag carriers and foreign air carriers providing service to the United States. This initiative calls for an increase of the existing Brussels and Rome security staffs and to the establishment of Civil Aviation Security International Field Offices (CASIFO) in two other locations, one in Frankfurt, Germany, and the other either in Ankara or Istanbul, Turkey, and in addition FAA CAS Liaison Officers in 10 specific AEU locations.

Approach: This process is strictly governed by NSDD-38 and a closely coordinated effort with appropriate international affairs offices in the FAA, the Department of Transportation, the Department of State and the Chiefs of Missions and Consul Generals in the countries into which plans call for the posting of these CAS resources.

Outcome: Expected outcome is an overall improvement in the conduct of CAS activities in these overseas locations.

Milestones: Staffing of the Frankfurt CASIFO and the office in Turkey is targeted for completion in the first quarter of FY-90, the increase of the Brussels staff in the second quarter, and the increase in the Rome staff in the third quarter of FY-90. Project completion by the end of FY-90 is anticipated.

Related Projects: Deployment of the Thermal Neutron Analysis Explosives Detection Systems overseas.

Interface Offices:

Associate Administrator for Policy and International Aviation
Department of State

Title: Regulatory Action for Explosives Detection Systems

Responsible Office: Civil Aviation Security Division, ACS-100

Goal: The prevention of criminal and terrorist acts against civil aviation.

Purpose: To implement an amendment to airplane operator security regulations to require U.S. air carriers required to conduct screening under a security program to use an explosives detection system (EDS), approved by the Administrator to screen checked baggage on international flights. These procedures are designed to prevent the carriage of explosives aboard aircraft.

Description: The FAA is amending Federal Aviation Regulations Part 108 to require air carriers conducting scheduled or public charter operations in international service who are required to have an approved security program to use an EDS that meets performance criteria and standards developed by the Administrator to screen checked baggage under the certificate holder's approved security program.

The current proposal, if adopted, would require air carriers to use an EDS to detect explosives only in international operations. If adopted, the following minimum performance criteria would be established for the system:

1. The system must be automated.

2. It must detect designated quantities and configurations of FAA-defined explosives.

3. It must be safe for operators and baggage.

More detailed information about the capabilities and use of the system would be incorporated into each air carriers's approved security program. In accordance with 14 CFR § 191.5, the FAA will not publish the full performance criteria or detailed operational information in any document available to the general public. The Director of Civil Aviation Security has determined that disclosure of this information would be detrimental to the safety of persons traveling in air transportation or intrastate air transportation.

Approach: The FAA expects to phase-in the implementation of this proposed rule, with 100 percent screening of international checked baggage at designated airports as the goal for the initial implementation period.

Outcome: The primary objective of this initiative is the prevention of criminal acts or acts of terrorism against U.S. air carriers by individuals using explosive devices.

Title: Regulatory Action for Explosives Detection Systems

Responsible Office: Civil Aviation Security Division, ACS-100

Goal: The prevention of criminal and terrorist acts against civil aviation.

Purpose: To implement an amendment to airplane operator security regulations to require U.S. air carriers required to conduct screening under a security program to use an explosives detection system (EDS), approved by the Administrator to screen checked baggage on international flights. These procedures are designed to prevent the carriage of explosives aboard aircraft.

Description: The FAA is amending Federal Aviation Regulations Part 108 to require air carriers conducting scheduled or public charter operations in international service who are required to have an approved security program to use an EDS that meets performance criteria and standards developed by the Administrator to screen checked baggage under the certificate holder's approved security program.

The current proposal, if adopted, would require air carriers to use an EDS to detect explosives only in international operations. If adopted, the following minimum performance criteria would be established for the system:

1. The system must be automated.

2. It must detect designated quantities and configurations of FAA-defined explosives.

3. It must be safe for operators and baggage.

More detailed information about the capabilities and use of the system would be incorporated into each air carriers's approved security program. In accordance with 14 CFR § 191.5, the FAA will not publish the full performance criteria or detailed operational information in any document available to the general public. The Director of Civil Aviation Security has determined that disclosure of this information would be detrimental to the safety of persons traveling in air transportation or intrastate air transportation.

Approach: The FAA expects to phase-in the implementation of this proposed rule, with 100 percent screening of international checked baggage at designated airports as the goal for the initial implementation period.

Outcome: The primary objective of this initiative is the prevention of criminal acts or acts of terrorism against U.S. air carriers by individuals using explosive devices.

Title: Aviation Security Advisory Committee

Responsible Office: Office of the Director

Goal: To make recommendations to the Administrator for improving aviation security measures.

Purpose: The purpose of the committee is to examine all areas of civil aviation security with the aim of providing recommendations for the improvement of methods, equipment, and procedures which will ensure a higher degree of safety for the traveling public.

Description: Following the explosion aboard Pan American World Airways Flight 103, on December 21, 1988, the Department of Transportation studied different areas in which aviation security could be improved, both domestically and internationally. On April 3, 1989, the Secretary of Transportation announced the intention to establish a national Aviation Security Advisory Committee to be chaired by the FAA's Director of Civil Aviation Security.

Approach: The committee is to make recommendations to the Administrator of FAA for improving aviation security measures. The function of the committee is solely advisory. Members of the committee shall include representatives of Federal agencies and aviation industry organizations. Once the charter has been approved, committee meetings will be scheduled. The committee shall remain in existence for 2 years unless sooner terminated or extended.

Outcome: The committee will report to the Administrator and forward recommendations which will ensure a higher degree of safety for the traveling public.

Milestones:

Committee in effect September 8, 1989
Meetings to be announced in the Federal Register

Related Projects:

Interface Offices:

Department of Transportation
Department of State
Department of Justice
Department of Treasury
Department of Defense
Air Transport Association
National Air Carrier Association

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Title: Review Security Procedures for Handling of Mail and Cargo

Responsible Office: Civil Aviation Security Division, **ACS-100**

Goal: To prevent the introduction of explosives, incendiaries, or other potentially hazardous materials into passenger-carrying aircraft.

Purpose: To reduce the possibilities of an act of sabotage, including in-flight bomb explosion.

Description: Over the past several years, the destruction by bombs of passenger aircraft in the air and on the ground, and the discovery of active bombs in passenger checked baggage and in air cargo facilities has consistently demonstrated the need for adequate security measures which will preclude an explosive device being introduced into the air transportation system. Further, mishandling, **mispackaging,** and mislabeling of hazardous materials carried in air transportation has posed significant risks to the traveling public and transportation workers. The public expects security measures which will ensure a safe and secure flight as well as strict compliance with applicable hazardous materials regulations.

Approach: A review and analysis of present acceptance procedures for mail and cargo is being performed to determine whether or not they are adequate to meet the present threat. Objectives of the review are to clearly define an indirect cargo air carrier **(ICAC),** known shipper, and package cargo, as well as the development of a plan for identifying **ICAC's.**

Plans are underway to incorporate this program into an overall security requirement to include indirect cargo air carrier security as defined in Title **14,** Part **109.** Part **109** rulemaking language, advisory circular, and security program will be revised.

Outcome: A revitalized cargo security program which will ensure the safety of flight operations through sound security procedures designed to prevent the covert introduction of explosives, incendiaries, and other dangerous material into cargo shipments tendered in air commerce.

The program will meet the basic intent of the regulations while requiring procedures which can be accomplished with minimum inconvenience to the regulated parties, while being controllable and enforceable to the extent necessary.

Milestones:

Rewrite **FAR** Part **109 - FY 1989**
Rewrite Advisory Circular **- FY 1989**
Update Profile Guidance **- FY 1990**
Initiate Survey at All Major Airports **- FY 1990**

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CHAPTER X

OFFICE OF ACCIDENT INVESTIGATION

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OFFICE OF ACCIDENT INVESTIGATION

INTRODUCTION

The Office of Accident Investigation has established a solid foundation within the Federal Aviation Administration for programs which address accident and incident investigations and safety recommendations issued by the National Transportation Safety Board and through the FAA internal program. In the long term, the Office will direct its efforts in two specific areas. The first objective is to develop fully the accident and incident programs within headquarters and the regions and to establish the National Accident Investigation Quality Assurance Program as an integral element of the overall Office analysis effort. At the headquarters level, staffing projections through FY-94 will provide sufficient air safety investigators with both general and specialty background that on-site investigative efforts can be extended to virtually all significant investigations. Additionally, the Office, working through Flight Standards and Air Traffic management, anticipates creating a more formal accident and incident presence in the regions and at air traffic facilities. The more comprehensive accident and incident investigation program will provide the basis for an extensive data base which will be the foundation of the second long-term objective of the office--a formal analytical mission and capability. In June 1989, the Office was designated as the Office of Primary Interest for the Accident Incident Data System (AIDS). The analytical capability of the Office will be tied closely to the success in developing fully the resident capabilities of the AIDS together with the data which result from the accident and incident investigation program. Staffing projections for this anticipated mission are also reflected in the plan for the next 5 years.

The overall objective of the Office is to develop the investigation and analysis programs so as to enhance the corrective action process of the FAA through increased management and technical involvement in the identification and resolution of safety issues. The final format of the Office is an organization which will develop and distribute information to program offices on a real-time basis while concurrently performing analysis of issues as they develop. Finally, safety data will be analyzed for trends in a before-the-fact manner and these results communicated to the appropriate technical offices of the agency.

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Through the National Aircraft Accident Investigation Quality Assurance Program, the office monitors, analyzes, and reports on the effectiveness of FAA participation in accident investigations. This program also monitors and encourages FAA corrective actions through the safety recommendation process.

The Recommendation and Quality Assurance Division manages the program for the analysis and development of FAA responses to NTSB safety recommendations. THe Division receives all NTSB recommendations, assigns the recommendation to the appropriate FAA office, analyzes the proposed position for responsiveness and with respect to other positions, and prepares the correspondence for the Administrator. The Division maintains a close relationship with the Office of the Secretary of Transportation on NTSB safety recommendation issues. A similar program for FAA safety recommendations is also managed by the division. The division conducts analysis of accident data to identity trends and safety deficiencies and produces periodic analytical reports on various safety issues.

The estimated operating budget and authorized positions to accomplish the programs associated with the Office of Accident Investigation during the fiscal years 1990 through 1994 are listed below.

	FY-90	FY-91	($000) FY-92	FY-93	FY-94
Budget	$1,957	$3,067	$3,474	$3,595	$3,720
Positions-FTP	19	28	33	33	33
Positions-	6	--	--	--	--

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Title: FAA Safety Recommendation Program

Responsible Office: Office of Accident Investigation (AAI)

Goal: To promote aviation safety by formulating safety improvement recommendations.

Purpose: To prevent the recurrence of aviation accidents and incidents through the implementation of safety recommendations submitted by FAA inspectors and accident investigators.

Description: During the conduct of accident/incident investigations and surveillance activities, FAA safety inspectors, by virtue of their qualifications and aviation experience, identify unsafe conditions and propose safety recommendations. These recommendations are submitted to the Office of Accident Investigation and processed in accordance with procedures specified in Chapter 7, paragraph 268 of Order 8020.11, "Aircraft Accident and Incident Notification, Investigation and Reporting".

Approach: AAI revised the procedures specified in Order 8020.11 to require that all recommendations be sent directly to AAI for assignment and tracking. AAI is implementing a Safety Recommendation Review Board (SRRB) to review responses to recommendations to ensure that they are adequately addressed by the assigned action offices. The Accident Investigation Quality Assurance Program is being used to encourage FAA inspectors to submit more recommendations. An automated tracking system is being developed to retrieve information about recommendations and improve the ability to monitor overdue action office responses.

Outcome: An automated FAA Recommendation System that will improve the overall process and increase the number of quality recommendations which will have a significant impact on improving aviation safety.

Milestones:

Establish Management Review/ Oversight function	FY-90
Complete Automation of System Network FAA and NTSB Recommendation Systems	FY-91
	FY-92

Related 'Projects: Accident Investigation Quality Assurance Program, NTSB Safety Recommendation Program.

Interface Offices: Air Traffic, Flight Standards, Airworthiness, Airports, Medical, Security, and Aircraft Certification Directorates.

Remarks: Increasing the number and quality of FAA recommendations could have significant safety benefits. Two hundred and eighty-seven (287) recommendations were submitted in 1987 and One hundred and sixty-seven (167) in 1988.

Title: NTSB Safety Recommendation Program

Responsible Office: Office of Accident Investigation (AAI)

Goal: To promote aviation safety by ensuring that the FAA fully addresses all NTSB safety recommendations issued to them.

Purpose: To serve as the FAA's focal point for receiving, processing, managing, and tracking the NTSB safety recommendations submitted to the FAA. To ensure that FAA complies with DOT Order 2000.1C, Department of Transportation Procedures for Handling NTSB Recommendations.

Description: FAA Order 1220.20 designates AAI as the FAA focal point for receiving, processing, managing, and tracking NTSB Safety recommendations. When AAI receives a NTSB safety recommendation it assigns action to the appropriate FAA program office having subject matter responsibility. After receiving input from the assigned action office, AAI prepares and coordinates the final FAA response to the NTSB for the Administrator's signature. AAI must also have the capability to retrieve current and historical information on open and closed recommendations.

Approach: AAI is developing an automated system for tracking current status and storing historical information on NTSB safety recommendations. When completed, this system will do away with the need to keep historical hard copy files of recommendation correspondence. The system will also produce the necessary monthly and yearly reports that summarize recommendation status information. AAI holds yearly reviews with the program action offices to monitor their progress in closing the open recommendations. AAI updated FAA Order 1220.20 to incorporate the requirements of the newly issued version of DOT Order 2000.1C the Monthly Workload Report, and to reflect recent FAA organizational changes.

Outcome: A NTSB Safety Recommendation System which is completely automated and will efficiently satisfy the requirements specified in DOT Order 2000.1C.

Milestones:

Improve Keyword Search Capability	FY-90
Introduce Artificial Intelligence Techniques	FY-90
Network FAA and NTSB Recommendation Systems	FY-91
Complete Automation	FY-92

Related Projects: FAA Safety Recommendation Program

Interface Offices: Air Traffic, Flight Standards, Airworthiness, Airports, Medical, Security, and Aircraft Certification Directorates.

Remarks: Currently 86 percent of the approximately 2300 safety recommendations issued by the NTSB to the FAA have been closed. About 84 percent of the recommendations closed by the NTSB have been classified "Acceptable" or "Acceptable Alternate" action.

Title: Accident/Incident Data Analysis Program

Responsible Office: Office of Accident Investigation (AAI)

Goal: Use the analysis of accident/incident information to improve aviation safety.

Purpose: To develop the capability to effectively analyze accident/incident data to proactively detect unsafe aviation trends and to support investigations , special studies, and corrective action programs.

Description: AAI maintains an Air Carrier Data Base which collects information on Part 121, Part 135 Commuter, and Part 135 Air Taxi accidents. This data is used to produce a monthly Air Carrier Accident Report. AAI also maintains a preliminary notice accident/incident data base which consists of information received through the Washington Operations Center. This preliminary notification data is made available to aircraft and component manufactures on a daily basis through the AAI Duty Room. AAI has access to NTSB, AIDS, SDR, and EIR data bases to support accident/incident investigations. AAI also coordinates with the NTSB on accident statistics.

Approach: In 1989, AAI was made the Office of Primary Interest (OPI) for the Accident/Incident Data System (AIDS). In this role, AAI will work with the National Safety Data Branch (AVN-120) to make improvements to AIDS. In addition, AAI will plan to have an Accident Data Requirements Study performed in FY-90 to identify users needs for accident data. AAI will also add the analytical staff necessary to perform analysis of accident data. A yearly accident analysis report will be developed along with the analytical capability to support ongoing accident investigations. In future years, the ability to collect and analyze incident data will also be enhanced.

Outcome: A timely and creditable accident/incident data base and the staff to analyze accident/incident information.

Milestones:

Develop Yearly Accident Analysis Report	FY-90
Conduct Accident Data Requirements Analysis	FY-90
Establish Common Data base with NTSB	FY-91
Develop Creditable Aviation Incident Data Base	FY-92

Related Projects: Accident Investigation Quality Assurance Program.

Interface Offices: Flight Standards, National Safety Data Branch

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Related Projects: Accident Investigation Quality Assurance Program.

Interface Offices: Flight Standards, National Safety Data Branch

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Interface Offices: Air Traffic, Flight Standards, Airworthiness, Airports, Medical, Security, Transportation Safety Institute.

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Milestones:

Institute Yearly Accident Investigation Seminars	FY-90
Develop AI Field Guidebooks	FY-90
Comprehensive Rewrite of Order 8020.11	FY-91
Add Powerplant and Human Performance Investigators	FY-91
Complete Duty Room Automation	FY-91
Add CVR and DFDR Readout Expertise Capability and Engineer	FY-92
Enhance Capability to Investigate Aviation Incidents (2 Air Safety Investigators, 1 AT Investigator, 1 Analyst)	FY-92
Add Airworthiness Investigator	FY-92

Related Projects: Accident Investigation Quality Assurance Program, FAA Safety Recommendation Program, Accident/Incident Data Analysis Program.

Interface Offices: Air Traffic, Flight Standards, Airworthiness, Airports, Medical, Security, and Aircraft Certification Directorates

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CHAPTER XI

AVIATION STANDARDS NATIONAL FIELD OFFICE

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Introduction

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Automation and/or procedural changes will enable AVN to improve response tine and service to the public and assist law enforcement agencies as outlined int he Anti-Drug Abuse Act of 1988 (H.R. 5210). The development and revision of instrument approach procedures will improve the entire Flight Procedures program through increased standardization, consistency, and accuracy.

In its on-going program of improving the education and evaluation process of certificating airmen, AVN will use advanced technology to automate the FAA airmen testing system to increase testing process, an increase the FAA's potential for evaluating flight training and flight safety through a more formative evaluation process.

The next 5 years will see AVN advancing rapidly into dynamic systems and technology which will create a more responsive capability and increased organizational effectiveness.

Organizational Description

The Aviation Standards National Field Office (AVN) is responsible for management of the FAA Aircraft Program including Agency and rental aircraft; flight inspection activities; development of instrument flight procedures; direction of the Washington headquarters flight program; maintenance, modifications, and engineering of FAA aircraft, avionics, and relatedequipment; engineering and manufacturing assistance to regions, centers, and Washington headquarters; management of national safety data bases; development of airman written examinations and examining standards; conduct of standardization training for designated examiners; management of the U.S. Civil Aircraft Registry; and issuance of airman certificates and ratings.

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AVN OPERATING BUDGET

DOLLARS(000) by fiscal year

	1990	1991	1992	1993	1994
Operations Direct					
Aircraft Flight Programs	71,004	82,828	85,799	87,145	88,791
Airmen & Aircraft Peg.	4,210	4,384	4,462	4,514	4,573
Operations & Maintenance	9,034				
Aircraft Certification	1,255				
Operations Direct Total	85,503				
Facilities & Equipment	21,091	60,735	80,860	58,100	35,700
TOTAL	106,594				

FULL TINE PERMANENT AUTHORIZED POSITIONS by fiscal year

	1990	1991	1992	1993	1994
Operations Direct					
Aircraft Flight Programs	774	794	794	794	794
Airmen & Aircraft Peg.	98	98	98	98	98
Operations & Maintenance	86				
Aircraft Certification	21				
Operations Direct Total	979				
Facilities & Equipment	29	29	29	29	29
TOTAL	1,008				

FULL TIME EQUIVALENT WORK YEARS by fiscal year

	1990	1991	1992	1993	1994
Operations Direct					
Aircraft Flight Programs	760	747	747	747	747
Airmen & Aircraft Peg.	98	98	98	98	98
Operations & Maintenance	80				
Aircraft Certification	19				
Operations Direct Total	957				
Facilities & Equipment	29	29	29	29	29
TOTAL	986				

NOTES:
1. Aircraft Flight Programs include regions.
2. FY-90 Aircraft Flight Programs and Airmen and Aircraft Registry reflect the marked up OMB submission. FY-91--FY-94 are from AVN outyear estimates.
3. FY-90 Operations and Maintenance and Aircraft Certification are from AVN BY-90 submission. Outyear information is not available.
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Title: Fleet Enhancement

Responsible Office: AVN-1

Acquire necessary aircraft for meeting mission requirements and upgrading the fleet with state-of-the-art National Airspace System technology and instrumentation essential to safety.

Purpose: Ensure that the agency fleet meets mission requirements; represents current state-of-the-art NAS technology; and has instrumentation essential to safety.

Description: Increased initiatives in aviation safety inspector hiring and development of new air traffic control procedures (e.g., Fast Coast Plan) added requirements to the Evaluation, Currency, and Transportation (ECT) and FAA Academy flight training programs. Initiatives are in place that will provide the minimum acceptable aircraft to meet needs. These acquisitions will provide the resources to meet existing and planned R&D and FI programs. They will also permit reassignment of fleet aircraft to the ECT and Training flight programs to meet deficiencies. Enhancements and upgrades of the acquired and existing aircraft to a state-of-the-art configuration include plans for procuring LORAN-C, MLS, MODE-S, TCAS II, GPS, FMS, EFIS, PDME, CVR, FDR, AFIS, and other equipment to meet mission requirements and replace obsolescent avionics that are not compatible with today's instrumentation.

Approach: Request equipment in the agency facilities and equipment call for estimates; prepare and justify procurement actions; and provide design, engineering, fabrication, test, and installation.

Outcome: Provide state-of-the-art fleet which can meet the demands of increasing program requirements in the areas of R&D, ECT, FI, Training, and Logistics in a safe, efficient manner.

Milestones: Fleet upgrade is an ongoing activity. Efforts will continue through FY-94 and beyond.

Related Projects: Projects related to the successful transition of the National Airspace System. Project SAFE and other initiatives which increase aircraft use.

Interface Offices: Organizations involved in aircraft use, NAS implementation , and procurement.

Remarks: None.

Title: Automation of Airman Testing

Responsible Office: AVN-100

Goal: Improve response and service to the public and other organizations through automation and/or procedural change. Specific areas of emphasis are airman testing and instrument procedures development.

Purpose: Develop and implement a nationwide computer-assisted test administration system to replace the present FAA airmen written test system.

Description: Using state-of-the-art technology, automate the FAA airman testing system to increase testing efficiency, reduce costs, improve the integrity of the testing process, and increase the FAA's potential for evaluating flight training and flight safety through a more formative evaluation process. Establish the capability for developing future computer-based instruction (CBI) and evaluation programs to replace or supplertent the present FAA airman training publications.

Develop an informative evaluation system which would facilitate the airman knowledge test administration. Using technology presently available, establish designated computer test sites. Simultaneously, establish a centralized FAA capability for delivering tests; scoring, recording, and issuing applicant test results based on computer-generated input. Continue to improve the education and evaluation process through the computer medium to enhance the training of the airman of the future.

Approach:

1. Designate qualified computer testing sites in accordance with applicable sections of FAA Order 8080.1C, "Conduct of Airman Written Tests."

2. Develop the centralized FAA computer-assisted testing system for the evaluation of airman knowledge, with initial emphasis on the various pilot certification and rating areas.

3. Determine the usability of the Information Referenced Testing (IRT) methodology.

4. Determine the applicability of Adaptive Testing for pilot certification.

5. Explore and expand future training and evaluation systems through computer-based instruction and testing capabilities.

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Title: Central Focus for Procedures Development

Responsible Office: AVN-200

Goal: Improve response and service to the public and other organizations through automation and/or procedural change. Specific areas of emphasis are airman testing and instrument procedures development.

Purpose: To establish a National Flight Procedures Development Branch (NFPDB) which will operate at a centralized location and when equipped with IAPA will enable AVN to support the Instrument Flight Procedures work program. There are three main focuses:

1. Reduce the work unit backlog in the field offices.
2. Help accomplish anticipated LORAN-C/MLS workload.
3. Serve as an operational test and evaluation to facilitate a decision whether to expand or discontinue centralization of instrument procedures development.

Description: This branch will initially consist of two sections, a branch manager (GM-2181-15) and branch secretary (GS-318-6). Each section will consist of a supervisor (GM-2181-14), two full performance level procedures specialists (GS-2181-13), five Aeronautical Information Specialists (GS-1361-11/12) and one clerical support position (GS-301-7).

Approach: Positions have been classified and initial recruitment is underway. Space, furniture, and equipment needs have been identified and are in various stages of being procured.

Outcome: Establishment of a centralized NFPDB, able to support the AVN Instrument Flight Procedures work program.

Milestones:

1. Classification complete:	3/89
2. Recruitment action:	4/89-7/89
3. Begin Operations:	10/89
4. Install next generation IAPA hardware:	1/91
5. Evaluate and make decision whether to expand or discontinue centralization instrument flight procedures development:	6/92

Related Projects: Further develop protocols for methods of operation among the NFPDB, Flight Inspection Field Offices and regional Flight Procedures Branches.

Title: Central Focus for Procedures Development

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Related Projects: Further develop protocols for methods of operation among the NFPDB, Flight Inspection Field Offices and regional Flight Procedures Branches.

Title: Instrument Approach Procedures Automation (IAPA)

Responsible Office: AVN-200

Goal: Improve response and service to the public and other organizations through automation and/or procedural change. Specific areas of emphasis are airmen testing and instrument procedures development.

Purpose: To automate the development and revision of instrument approach procedures which will improve the entire Flight Procedures Program through increased standardization, consistency, and accuracy.

Description: IAPA is a mini computer-based data processing system which will permit the procedures specialist to apply automation in the development of instrument approach procedures. It is designed to free the user of many of the labor intensive operations currently a part of the procedures development process, such as file look-ups, drafting, mathematical calculations, and reference book searches. IAPA will allow the specialists to concentrate their efforts on those activities requiring their special knowledge and expertise, i.e., inspection, investigation, and the application of judgment in decisionmaking.

Approach: To continue development of software to upgrade system capabilities, to purchase 120 workstations of state-of-the-art capability in FY-90 and FY-91 at a cost of $8.5 million.

Outcome: Enhanced ability to accomplish the projected AVN instrument flight procedures workload by increasing procedures specialists productivity by 25 to 50 percent.

Milestones:

Install new system:	1st Qtr FY-91
Develop and transmit 95% of SIAPS:	3rd Qtr FY-93

Related Projects: AFS/Regional Preliminary Regional Obstacle Screening Evaluation (PROSE) Project

Interface Offices: Aircraft and Fiscal Programs Division, AVN-500
Office of Program and Resource Management, APR
Office of Management Systems, AMS

Remarks: If indicated resources not available, projected increase in productivity will slip commensurately.

Title: Airman and Aircraft Registry Modifications

Responsible Office: AVN-400

Goal: To identify, develop and implement corrective actions to address deficiencies in the Airman and Aircraft Registry System as outlined in the Anti-Drug Abuse Act of 1988 (H.R. 5210).

Purpose: Through automation and/or procedural change, improve response tin-e and service to the public and assist law enforcement agencies as outlined in H.R. 5210 in identifying aircraft capable of long-range flights and aircraft which are inproperly registered; assuring positive and verifiable certificate or airman certificate; eliminating the use of false addresses; eliminating the improper use of reserved registration numbers and false registration numbers; and reducing the numbers of aircraft in sale reported status.

Description: H.R. 5210 imposes more stringent requirements on the registration of aircraft and certification of airmen in the following areas: reductions of the number of aircraft in sale reported; buyer/seller notification requirements; face-to-face requirement to register aircraft; periodic registration expiration; improvement in system for monitoring fuel systems alterations on Form 337; positive identification of airman and aircraft registration certificate holders; and system modifications for more timely and efficient service in both airman certification and aircraft registration.

Approach: Respond to requirements identified in the forthcoming memorandum of understanding and milestone chart from the Washington Task Force.

Prepare project reports on each area of the Registry affected which will identify requirements in procedural and regulatory changes, personnel, equipment,, space and other resources needed, and report the impact if resources are not provided.

Monitor performance and implement a quality assurance plan.

Provide operational guidance, training and support to Registry and Field employees involved in implementing changes in methodology and work procedures.

Outcome: Improved procedures, increased staffing and equipment, and improved service to the public and law enforcement in compliance with regulatory and methodology requirements of H.R. 5210.

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Title: Airmen and Aircraft Registry Modernization

Responsible Office: Office of the Director, AVN-2A

Goal: To identify, develop, and Implement corrective action to address deficiencies In the Airmen and Aircraft Registry system,

Purpose: To meet requirements of the Anti-Drug Abuse Act of 1988 (H.R. 5210), Subtitle E - Federal Aviation Administration Drug Enforcement Assistance.

Description: H.R. 5210 outlined, among other things, a number of deficiencies In the Registry which were prone to abuse by persons involved In smuggling Illegal substances by air. In addition, records maintained by the Registry did not always reflect current, accurate Information which could be retrieved in a timely manner for law enforcement purposes. The Act Imposes a short deadline for the issuance of final rules which are to correct many of the deficiencies.

Approach: A plan for modernization of the Registry, which will also revise processes and procedures associated with the registration of aircraft and certification of airmen, was approved by the Administrator and the Secretary of Transportation.

Outcome: Totally renovated Airmen and Aircraft Registry which will have a more accurate and complete data base from which Information can be retrieved quickly for law enforcement and provide improved service to the public.

The procedures for aircraft registration and airmen certification will be tightened to avoid abuse by persons with criminal intent.

Milestones:

Plans submitted to AXR-1 - FY 1989 (Completed 2/9/89)
Approval by Administrator and Secretary of Transportation (Approved 5/27/89)
Rulemaking - NPRM - FY 1989
Start of microfiche/microfilm conversion - FY 1990
Redesign airmen and aircraft computer systems - FY 1990
Acquire additional office space - FY 1990
Rulemaking - Final rule - FY 1991
Purchase of optical disk equipment - FY 1991
Complete microfiche/microfilm conversion - FY 1993
Project completion - FY 1993

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U.S. Department
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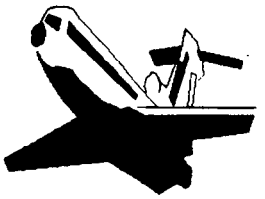
Federal Aviation Administration



AXR PLAN
FY 1990 - 1994